TRUST AND THE UTILIZATION OF MATERNAL AND CHILD HEALTH SERVICES IN THE CONTEXT OF HIV/AIDS IN PALAPYE, BOTSWANA

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Author's Statement

Except where otherwise indicated, the work presented in this thesis is my own work carried out while studying at the National Centre for Epidemiology and Population Health, College of Medicine, Biology and Environment of The Australian National University.

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Dedication

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Glossary

ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
AUD	Australian Dollar
ABM	Andersen Behavioural Model
BIUST	Botswana International University of Science and Technology
DHS	Demographic Health Survey
DHT	District Health Team
EHSP	Essential Health Service Package
FEW	Family Welfare Educator
GDP	Gross Domestic Product
HAART	Highly Active Antiretroviral Therapy
HDI	Human Development Index
HIV/AIDS	Human Immuno-deficiency Virus/Acquired Immuno-Deficiency Syndrome
IHSP	Integrated Health Service Package
IPMS	Integrated Patient Management Systems
LTFLU	Lost To Follow-Up
MCH	Maternal and Child Health
MCH/FP	Maternal and Child Health/Family Planning
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
MTCT	Mother-To-Child Transmission
NDP	National Development Plan
OVC	Orphaned and Vulnerable Children
PMTCT	Prevention of Mother-To-Child Transmission
PNC	Postnatal Care
PPH	Palapye Primary Hospital
RHT	Rapid HIV Test
SADC	Southern African Development Committee
SPSS	Statistical Package for Social Sciences

SRH	Sexual Reproductive Health
TB	Tuberculosis
TBA	Traditional Birth Attendant
UCCSA	United Congregational Church of Southern Africa
UNAIDS	United Nations Agency for International Development
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
US	United States
WHO	World Health Organization

Abstract

The current interest in and momentum for improving health outcomes for women and children in sub-Saharan Africa through stronger health systems presents an opportune time for researchers, policy makers and healthcare providers in the region. Access to and utilization of available health services by women and children is one area in which, although research abounds, solutions to ensure access and optimal use of services remain problematic.

Methods: Using mixed research methods, women's and children's access to and utilization of maternal and child health services are examined using the notion of trust in healthcare as an overarching paradigm. The study was conducted in Palapye, Botswana. Quantitative data were extracted from a sample of 942 obstetric booklets and related hospital registers for births that occurred at Palapye Primary Hospital in the five-year period between April 1st 2005 and March, 31st 2010. Thirty-six recently delivered women and 11 healthcare providers, including Ministry of Health bureaucrats, were interviewed in-depth to provide qualitative data for the thesis.

Results: Findings from the study revealed a mismatch between women's access to and utilization of health services. First, the near universal attendance of ANC (95.8 percent with at least one visit and 85.8 percent with at least four visits) stood in contrast to frequent late first attendance (84.8 percent) and poor confirmed PNC attendance (only 21.3 percent). Second, the near universal enrolment (95 percent) of HIV-positive women into the PMTCT program stood in contrast to poor adherence in the program (53.4 percent defaulted for AZT initiation at 28 weeks, 36.2 percent defaulted on ingestion of AZT at labour/delivery, 73.6 percent of HIV-negative women who should have re-tested at 36 weeks failed to do so, and 6.9 percent of women were definitely lost to follow up before delivery, with another 13.3 percent also possibly lost to follow up). The results further revealed that variations in health service use among women could only be marginally explained by differences in women's socio-demographic characteristics.

Trust was found to be a very significant element influencing women's access to and utilization of health services. This influence was best captured using three phases of

trust. Naïve/blind trust was characterized by an element of untested optimism in the provision and reception of needed care. But because expectations can lead to disappointment, women expressed a sense of disenchantment, mostly characterized by anxiety and frustration with their healthcare, and often leading to delayed use of services and poor adherence. Seeking to address their health needs, women's naïve/blind trust and/or disenchantment evolved to re-constructed trust. In this phase women demonstrated low levels of trust in healthcare providers and the health system in general, often characterized by reluctance to use services and excusing healthcare providers' negative behaviours or attitudes. This phase of trust was also characterized by high levels of trust in certain healthcare providers and not others.

Conclusion: Women in Palapye have adequate access to maternal and child health services but poor patient-provider relationships, and therefore a breakdown of trust negatively affects their health service use.

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CHAPTER 1

INTRODUCTION

1.1 Background and rationale for the study

In the last decade healthcare in developing countries has been characterized by complexity, innovation and a lot of unmet (and often unrealistic) expectation. An unprecedented number of initiatives aimed at strengthening countries' healthcare systems have been taken, supported by specific country governments and their development partners. This is because there has been a realization in political, economic and social agendas at international and local levels that barriers which impede health require system-wide approaches. However, many acclaimed healthcare initiatives in developing countries continue to ignore one salient factor – patients' trust in their healthcare providers and the healthcare system, which has a bearing on their access to and utilization of available health services. This is in spite of the well understood role of trust in healthcare relationships.

The human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), its prevention, treatment and care occur within complex social contexts for individuals. They occur in worlds of many contradictions, oscillating, for example, between courage and struggle; death and survival; hopelessness and determination. Addressed over time, the primary care offered to patients in the context of HIV/AIDS inherently requires sustained partnership in healthcare access and provision. Yet health sector reforms aimed at improving people's access to and utilization of current health services have been largely dominated by a tendency to focus on "standardized packages of technical and structural interventions based on simplistic assumptions about human behaviour" (Blaauw *et al.*, 2003:3). This almost overdone and prevailing fixation on

components of the healthcare system such as technology, infrastructure and finance simply perpetuates the view of healthcare systems as "machines through which biomedical interventions are delivered" (Gilson, 2006:364), ignoring the fundamental social aspects of healthcare. This fixation is captured well by Byskov *et al.* (2009:23):

> To date most priority setting initiatives in health systems have mainly focused on technical approaches involving information derived from burden of disease statistics, cost effectiveness analysis, and published clinical trials. However … these technical approaches do not equip decision-makers to address a broader range of values – such as trust, equity, accountability and fairness – that are of concern to … the populations concerned.

The reality that healthcare reforms need to take on board is that patients usually have substantial experience of their conditions or illnesses. These experiences are often shaped or constrained by their social context as well as by their interaction with attributes of the healthcare system to ultimately influence their access to and utilization of available services. Health service research has shown that patients' trust in their healthcare providers and healthcare systems is essential for effective healthcare, as trust is strongly associated with decisions regarding service acceptance and utilization (John, 1992, Andaleeb, 2000, Andaleeb, 2001, Brink-Muinen and Rijken, 2006, Streefland, 2008, Lee and Lin, 2009, Pilgrim *et al.*, 2011). This recognition of the importance of trust in healthcare is derived from an appreciation that medical relationships are "characterized by uncertainty and an element of risk" (Calnan and Rowe, 2005:1). In order for healthcare providers and the healthcare system to provide the necessary care to a population there is a need for co-operation between them and patients. In fact, trust has long been recognized as fundamental to the medical profession – "a resource that allowed (the medical profession) to define the scope of medical work and increase the political and clinical autonomy of its practitioners" (Mechanic, 1996:171). Patients go through a decision-making process where they take a risk and decide to trust that

medical practitioners will act in their best interest. Central to the patient's willingness and decisions to seek care, disclose sensitive information, accept providers' treatment and follow their recommendations is the element of trust (Hall *et al.*, 2002a). The unrelenting HIV/AIDS pandemic, with its related co-morbidities, in developing countries highlights the need for trusting patient-provider relationships that can help ensure continuity of care. Yet much of the available literature on patients' access to and utilization of health services that specifically deals with the role of trust in healthcare providers and the healthcare system derives from experiences within developed countries' healthcare systems – research in this area in sub-Saharan Africa remains limited.

In Botswana, for instance, studies of the utilization and acceptance of various recent medical interventions have mainly focused on measuring service coverage and uptake (Warwick, 2006, Kebaabetswe, 2007, Lockman *et al.*, 2007, Creek *et al.*, 2009). Other operational studies of HIV programs in Botswana show mixed results that ultimately highlight the need for a different approach in conceptualizing patients' access to and utilization of health services. On the one hand these studies suggest acceptable levels of program uptake (Baek *et al.*, 2009). But on the other hand some studies, including in some instances the same studies, are expressing growing concern over patient loss-to-follow-up (LTFU) in HIV/AIDS programs (Bisson *et al.*, 2007, Bussmann *et al.*, 2008, Creek *et al.*, 2008, Baek *et al.*, 2009, Brinkhof *et al.*, 2009). Failure to retain patients in these programs can compromise attainment of desired health outcomes among populations. In the end these studies have focused narrowly on commonly identified predisposing, enabling and need factors for access to and utilization of healthcare services.

Seldom have healthcare utilization studies in Botswana (and sub-Saharan Africa at large) focused specifically on the role of trusting relationships within the healthcare system. At best, the understanding of healthcare relationships derives from patient satisfaction surveys which have largely been taken as proxy indicators of healthcare quality. Yet trusting relationships are a pathway to satisfaction. It is imperative for health services research to gain an understanding of how trust is built and undermined in healthcare, because it is fundamental to interpersonal healthcare relationships and patients' satisfaction, which have a bearing on their access to and utilization of health services. Without a rigorous understanding of the relational (social) aspect of healthcare delivery, available potent biomedical interventions for disease prevention and treatment will not attain optimal effectiveness for population health. Deliberate and critical discourse of theoretical perspectives on trusting relationships in healthcare may well be the antidote needed for understanding and finding solutions to improve access to and utilization of available health services. Facilitating access to and utilization of these health services does not only lie with service users, but also with service providers who must make available and provide the full extent of services patients seek (whether verbalized or not). When healthcare providers understand that in providing care they also need to build trust, this understanding also promotes commitment and accountability on their part to providing services to the full extent of their potential.

It is against this backdrop that this thesis therefore seeks to contribute a humanistic approach to healthcare system strengthening initiatives, especially those intended for women and children in Botswana in the context of HIV/AIDS. That is, to find ways in which healthcare providers can engage with women in a manner that helps to strengthen and enable cooperation in healthcare provision, and therefore better health outcomes for

them and their children.

1.2 Botswana in brief

1.2.1 Economy

Botswana is a peculiar country in sub-Saharan Africa in several respects, including its political stability and economic success. The country gained independence from the British in 1966 as one of the poorest countries in the continent – with a Gross Domestic Product (GDP) per capita of US$70. Through prudent management of its natural resources, largely deposits of diamonds discovered in the 1970s (which nowadays account for about 80 percent of export revenue), Botswana was quickly transformed into an upper-middle income country (Leith, 2005). For more than three decades following independence it had the fastest growing economy in the world, averaging 9 percent per annum between 1966 and 2006 (World Bank, 2012a). Botswana's GDP per capita was in 2011 estimated to be US$8,533 (United Nations, 2013).

The country's wealth has been consistently invested in infrastructure development, health and education (Leith, 2005). However, Botswana's economic boom is in stark contrast to the country's relatively low human development index (HDI), currently estimated at 0.633 compared to 0.463 for sub-Saharan Africa as a whole (UNDP, 2011), as well as its poverty, especially in rural areas, and its skewed income distribution. The unemployment rate was 17.8 percent for the year 2009-10 (Central Statistics Office, 2011). In addition, while the proportion of persons living below the poverty line has declined from 30.6 percent in 2002-03 to 20.7 percent in 2009-10 (Central Statistics Office, 2011), those living in rural areas still face significant and stubborn poverty (World Bank, 2012a).

Like other countries in Southern Africa, Botswana has always been an integral player in South Africa's economy, the buoyancy of which came earlier compared to those of its neighbouring countries. Botswana was a migrant sending country, with mainly men migrating to South Africa to work in mines and other production industries (mainly agriculture) (Elkan, 1980). The impact of this migration, although it can be argued to have been a rational response able to benefit individuals and families, has often been negative on family structures and family well-being. It has been suggested that male-dominated labour migration, such as that from countries like Botswana, "engenders a process of under-development" (Brown,1983:367). Most critically, following the advent of HIV/AIDS, labour migration also fostered the spread of the disease across borders and communities – promoted by the infidelity of intimate partners separated for extended periods (International Organization for Migration, n.d.).

1.2.2 History and politics

Since independence there has never been a coup d'état, a civil war or any massive loss of human life due to the mineral exploration that has almost become the African continent's greatest curse. The process of democratization in Botswana was slow rather than revolutionary, and largely facilitated by a considerable homogeneity of cultures in southern Africa compared to other regions of the African continent (Parson, 1999, Leith, 2005). Mineral production in Africa saw African people in southern Africa living side by side with a white settler population, European governments and a vigorous Afrikaner community (Boer settlers) in the Orange Free State and the Transvaal (Swanepoel *et al.*, 2007). It reinforced acute competition over land and tensions became persistent, causing great and rapid social change among African societies in the region. These turbulent times, commonly referred to as the *Defacane* (or the scattering), saw the

emergence of various dynasties, establishing Kingdoms and Chiefdoms and spreading right across the southern Africa region. As elsewhere in Africa, political struggles became rampant, with Great Britain seeking to gain control ahead of Germany and Portugal. Protectionist legislation became the dominant feature of the period 1873-97 (Swanepoel *et al.*, 2007).

In 1885 the Tswana territory in the south (known as the Bechuanaland, which later became Botswana) came under British government protection, and expanded to include the present day northern region of Botswana in 1890, while Germany took control of the western region (present day Namibia). In 1964, Britain accepted the request of Bechuanaland for self-governance, leading in 1965 to the seat of government relocating from Mafikeng (in present day Northwest Province of South Africa) to Gaborone (Botswana's present day capital) (Hitchcock and Smith, 1982). A constitution was drawn up and led to the first general election in 1965, then to the country's independence in 1966. Since independence, Botswana has enjoyed an open political system that has seen the development and maintenance of a multi-party constitutional democracy. It is one of the few countries in Africa which has maintained a Westminster-type constitution and continues to have a multi-party parliamentary system, regular elections, universal adult suffrage and the separation of powers into the legislature, the presidency, the executive and the judiciary (Harding, 2004). Governance is organized through the central government and local governments, beneath which sit district and urban councils and village development committees.

1.2.3 Geography

Botswana is a landlocked country covering an area of 581,730 square kilometers. It is bordered by Namibia to the west and north, South Africa to the southeast and south, and Zambia and Zimbabwe to the northeast (Figure 1.1). It is a semi-arid country with over two-thirds of the land covered with grasses and scrub. The constant dry climatic conditions make water a scarce commodity and the country is prone to drought and has very little fertile soil. It is for this reason that its population is concentrated in the east (over 80 percent), while the large area to the west is mainly the Kalahari Desert (Seth, 2009). Also found in Botswana is Southern Africa's largest inland delta, the Okavango Delta, which covers over 12,000 square kilometers. With its vast wildlife and scenic beauty, the Okavango has earned its title as 'The Jewel of the Kalahari', and remains Botswana's leading tourist destination.

Figure 1.1: Map of Africa showing Botswana and other African countries

Botswana is one of the least densely populated countries in sub-Saharan Africa, with a population currently estimated at 2 million, or slightly under 3.5 persons per square kilometer (Central Statistics Office, 2012a). The country experienced rapid population growth following independence, averaging 4.7 percent per annum during 1971-81. Between 1987 and 1997 the population growth rate was estimated at 2.7 percent, and it has since declined to 1.9 percent per annum over the period 2001-11 (Central Statistics Office, 2012a). A decline in fertility from 6.6 children per woman in 1971 to 2.7 in 2011, HIV/AIDS, urbanization and improvements in healthcare services leading to change in the social status of women have contributed to this rapid decline in population growth.

The years immediately following Botswana's independence were characterized by a high rate of population growth, with population increasing by 64 percent during the period 1971-81 as the country experienced high birth rates and declining mortality rates. The population grew from 574,000 in 1971 to 941,000 in 1981. The following years would, however, see rapidly declining fertility rates and, once HIV/AIDS struck, increasing mortality rates.

1.2.4 Social organization and religion

Batswana (the people who inhabit Botswana) are historically agriculturalists and pastoralists. They have a tripartite settlement pattern under which families commonly have three residences, the farming lands (*masimo*), the cattlepost (*moraka*) and a third home in one of the larger villages, towns and cities where most people live and work. A strong tie with all three residences is particularly reinforced by such practices as marriage ceremonies, *botsetsi* (a culturally prescribed period of confinement for

recently delivered mothers) and funerals, which most people prefer to take place at their home villages – largely located at *masimo* or *moraka* (or a place where one or one's parents were born). This pattern of circulation between residences has provided a conducive environment for the rapid spread of HIV among the population – due to the frequent partner separation and mobility it generates. Travel commitments generated by these cultural norms have also been advanced as a reason for poor adherence among patients to anti-retroviral therapy (ART) (Botswana-UPenn Partnership, 2012).

Self-help and community participation have always been dominant features of Botswana society (Hitchcock and Smith, 1982). However, this social organization has more recently been compromised by the country's economic boom, particularly through the sharp increase in government spending. Botswana's economic and social development efforts, which have generally been guided by the people's needs, have arguably generated an over-reliance on government. People now expect government payments for community participation. With regard to education, universal primary education has contributed significantly to a high literacy rate, with the combined gross enrolment ratio for primary, secondary and tertiary education (7-22 years of age) in 2003 70 percent, compared to 56 percent across the 15 countries of the Southern African Development Community (SADC) region. In 2008, the adult (15 years and over) literacy rate in Botswana was estimated at 83 percent (UNAIDS and NACA, 2010).

The "predominant religious beliefs in Botswana can best be described as modified Christian" (Taylor *et al.*, 2004:90). Religious institutions/churches from Western countries, including the Roman Catholic Church, the London Missionary Society (now

called the United Congregational Church of Southern Africa - UCCSA), the Anglican Church and the Dutch Reformed Church, have enjoyed greater legitimacy than Islam and other religions in Botswana. However, much in the way of traditional African beliefs and religious practices has also been incorporated into local Christian doctrine (Taylor *et al.*, 2004). Consequently, in order to understand fully someone's religious beliefs, particularly their Christian beliefs, asking for the type of church a person attends is more appropriate than asking its denomination. There are three predominant types of Christian church in Botswana – Missionary churches, Pentecostal churches and African Independent churches. At the core of Tswana religion is the belief in, and veneration of, ancestors. Members of the African Independent Churches in particular tend to straddle these two aspects of religion (Christianity and African traditional beliefs). Other religions exist as well, including Hinduism and Islam, but are minority religions.

In the context of HIV/AIDS, women and children represent a very special group of the population; the social impact of the epidemic is twofold on both of them. Women and children are either affected or infected by the HIV virus in ways that significantly impact on their socio-economic well-being and health. Because of their traditional care-giving role in society women, who may not be infected by the virus themselves, often have to provide care to those who are infected, and the same applies to children, especially female children. Children are orphaned and made vulnerable by the virus, which infects their parents who eventually succumb and die from AIDS. Orphaned and vulnerable children (OVC) are more likely to experience poor health than non-orphaned children, with a five times greater chance of dying than non-orphans (Newell *et al.*, 2004).

The traditional extended family-based approach to caregiving for orphans has been made particularly challenging by the large numbers of OVC that many families have to care for. But is it not just OVC that are at increased risk of poor health in Botswana. Non-orphaned children also have a high general risk of poor health status because a high disease burden and poor socio-economic status among their mothers directly affects them. Women in Botswana face significant challenges which have been worsened by the HIV/AIDS epidemic. Women's physiological differences from men make them more susceptible to HIV infection. However, the disproportionate burden of the HIV epidemic on women (compared to men) has also been blamed on patriarchy and its hegemonic masculinity (Van Klinken, 2013). The practice of patriarchy in Botswana society has historically marginalized women and continues to marginalize their material conditions.

Historical patriarchal practices in Botswana have almost legitimized power differentials between women and men, under which men continue to hold (for example) the upper hand in the productive, political and cultural systems. In Botswana, the issue of multiple partners (unfaithfulness) affects women more negatively than men. There is a Setswana proverb that says *monna ke selepe oa adimanwa* (a man is like an axe, he can be shared). That means that more often than not women are infected with HIV by partners who themselves usually have multiple partners. This applies whether a man and a woman are in a marital, cohabiting or courting (boyfriend/girlfriend) relationship.

Issues of marriage, cohabitation and singlehood further compound women's challenges in the context of HIV/AIDS. Women have to navigate through important decision-points concerning their reproductive futures. In a society where "construction of ideal

female attributes and roles typically emphasizes motherhood", women often put themselves at risk of contracting the HIV virus in a bid to procreate and affirm their identity (Pitso and Carmichael, 2003:199). More often than not, even in instances where women are aware of the risk of contracting HIV in the process of trying to have a baby, they do not have partners who are willing to undergo an HIV test to better inform their reproductive decisions (IRIN, 2013).

While childbearing desires or plans among unmarried women (especially cohabiting women) have been found to be lower than those of married women, for fear of economic burden and risk unmarried women have been reported to face pressure from their partners to bear them children outside marriage (Mokomane, 2004). Furthermore, Botswana is noted as a country in Southern Africa with an exceptionally high prevalence of cohabiting unions, and it is speculated that this phenomenon is due in part to increasing premarital childbearing and the low socio-economic status of women (Pitso and Carmichael, 2003, Mokomane, 2005b, Mokomane, 2006). Many women enter such unstable and often economically disadvantaging unions not as an alternative to marriage, but rather hoping they will be a temporary phase before marriage (Mokomane, 2006). That many women in Botswana are living with HIV/AIDS, are single and some are also parents to HIV-positive children who they infected carries significant implications for the public health system.

1.2.5 Health status

Life expectancy at birth declined from 62.9 years in 1990 to 46.4 years in 2010, a lower life expectancy than prevailed during late colonial times (Table 1.1). During the early years of independence infectious diseases and diseases associated with poverty and poor

infrastructure (e.g., poor sanitation), including tuberculosis, diarrhoeal diseases, malaria, respiratory infections and enteritis, were the leading causes of morbidity in Botswana (McIntyre *et al.*, 2008, Campbell *et al.*, 2012). Non-communicable diseases such as high blood pressure began to be noticed and reported in the late 1980s (Campbell *et al.*, 2012). Today in Botswana diseases of poverty have re-emerged and co-exist with diseases associated with affluent lifestyles. Infectious diseases do account for a high proportion of the disease burden in Botswana – over 40 percent – just like in many other countries of sub-Saharan Africa (Jamison *et al.*, 2006).

Table 1.1: Life expectancy in Botswana, 1960-2010

	1960	1970	1980	1990	2000	2010
Life expectancy at birth, total (years)	50.5	54.6	60.7	62.9	50.5	46.4
Life expectancy at birth, female (years)	52.4	5653	62.8	65.5	52.0	45.9
Life expectancy at birth, male (years)	48.7	52.9	58.7	60.5	49.1	46.9

Source: (World Bank, 2012b)

1.2.5.1 HIV/AIDS in Botswana

The health of Botswana's population had been improving steadily until the early 1990s, when the HIV/AIDS epidemic struck, reversing emphatically years of health gains. Following the first HIV/AIDS case in Botswana being diagnosed in 1985, the epidemic spread exponentially through the population. HIV/AIDS has been the most significant epidemiological change to affect Botswana's health, the country ranking second only to Swaziland among nations with the highest HIV prevalence rates in the world. While morbidity and mortality for all ages in Botswana are dominated by infectious diseases, HIV/AIDS continues to be a major concern. The poignant effects of the epidemic have been well captured in the words of former President Festus Mogae which echoed across

the world – "we are threatened with extinction … people are dying in chillingly high numbers" (Swindles, 2001).

In 2011 it was estimated that the national HIV prevalence rate among adults aged 15-49 years was 25.0 percent and that among women attending antenatal care (ANC) was 30.4 percent (Ministry of Health, 2011a). The HIV incidence rate was estimated at 2.7 percent in 2011. The potential impact of these numbers on the country's population continues to dictate the need for Botswana's HIV response to emphasize prevention and treatment, provided mainly through the country's health sector. Provision of national HIV/AIDS prevention, treatment and care programs has thus brought substantial changes to the organization and development of Botswana's health sector. Some of these changes have included expansion of health services, improvement in health technologies and an increase in the number of health sector stakeholders through public/private partnerships.

There has also been a wide range of programs, policies, laws, guidelines and strategies developed and launched in the country in a bid to mitigate the effects of HIV/AIDS. Some of these have included the prevention of mother-to-child transmission (PMTCT) of HIV program, the National HIV/AIDS policy, amendment of the Industrial Property Act, national guidelines on HIV testing and counseling and the Community Mobilization Strategy. These initiatives have mainly echoed a leadership and a political commitment geared towards addressing the problems brought on by the HIV scourge.

Supportive policy, political commitment, a good funding environment and a multi-sectoral approach to prevention, treatment and care have enabled Botswana to reduce

mortality due to HIV/AIDS. The availability since 2001 of a high quality anti-retroviral treatment (ART) program, commonly known as *Masa* (New dawn), which has seen anti-retroviral medication provided through the country's public health system to all citizens who needed it, helped to stabilize mortality due to HIV/AIDS. Some of the successes that Botswana celebrates include increased access to HIV screening, prevention, treatment and care for all who need it. But it also needs to be stated that although a conducive environment has been created that has allowed for the mounting of fruitful efforts to fight HIV, challenges remain.

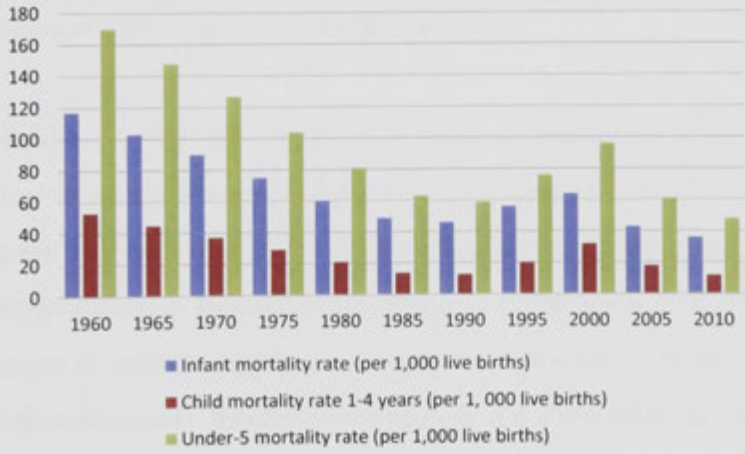
The most critical challenge is the widely culturally accepted practice of multiple, concurrent and inter-generational partnerships. Given their low socio-economic status, women in such partnerships are often economically dependent on their partners, a situation that often robs them of negotiating power when it comes to safe-sex practices. Prevention problems that there has been little success addressing only increase the burden of providing treatment and care to those living with the virus. The only way Botswana will win the war against HIV/AIDS is to halt new cases and manage morbidity among those living with the disease. There is no doubt that provision of treatment and care is expensive and possibly even not sustainable in the long run. This is especially because those enrolled in ART programs need constant and complex monitoring to remain healthy and guard against developing resistance, often due to poor adherence to treatment requirements. When a patient develops resistance they need to be provided with an alternative treatment plan, which can be second or third line treatment that can be more expensive than first line treatment. Health resources to mitigate the unrelenting HIV epidemic are not infinite. Prevailing technical challenges that impede the provision of HIV/AIDS and other healthcare services require citizens

who recognize their own role and responsibility, as well as a healthcare system that empowers and enables them to attain optimal health and ensures that limited resources for health do not go to waste.

1.2.5.2 Children's health

Until HIV/AIDS posed unprecedented challenges to healthcare in Botswana, infant, under-5 and child (1-4 years) mortality rates had been steadily declining over the years (Figure 1.2). Botswana was able to reduce mortality by well over 50 percent by the 1990s compared to the early years post-independence. A reversal was observed through the 1990s, halting Botswana's progress in reducing infant mortality, but since 2000 a downward trajectory has been re-established. The most common illnesses these days among children under the age of five years are pneumonia, diarrhoea, tuberculosis (TB) and other infectious diseases, which account for three-quarters of the disease burden (Central Statistics Office, 2009b). In the most recent survey (2007-08) conducted by the

Figure 1.2: Infant, child and under-5 mortality rates in Botswana, 1960-2010



Source: (World Bank, 2012b)

Botswana Central Statistics Office, pneumonia was identified as the leading cause of mortality among infants and children aged 1-4 years (Central Statistics Office, 2010). In 2007, 21.2 percent of infant deaths were due to pneumonia, compared to 13.4 percent and 17.9 percent, respectively, which were due to HIV/AIDS and diarrhoea (Central Statistics Office, 2010).

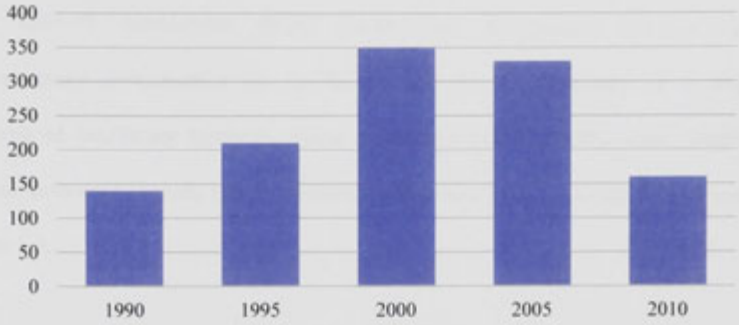
1.2.5.3 Maternal health

Maternal mortality in Botswana is still very high when compared to that of other upper middle-income countries. According to the WHO, the maternal mortality ratio in Botswana in 2010 was estimated at 160 per 100,000 live births, compared to 53 per 100,000 in countries of similar income level (WHO, 2013b). Although the maternal mortality ratio has been declining in recent years, it is also still high compared to previous estimates, having in 1990 been estimated at 140 per 100,000 live births (Figure 1.3). The MMR rose to 210 and 350 per 100,000 live births in 1995 and 2000, an increase that can be attributed primarily to AIDS deaths during pregnancy or within 42 days of one ending, since over 60 percent of HIV-positive people in Botswana are women of childbearing age (World Bank, 2012b).

Diseases of the respiratory system, which complicate pregnancy and childbirth, as well as eclampsia and HIV are the leading causes of maternal mortality in Botswana. In the period 2005-06, HIV-related complications accounted for about 30 percent of total maternal deaths in Botswana, before dropping to 10 percent in 2010. Other leading causes of maternal mortality are haemorrhage, hypertension, abortion, sepsis and ectopic pregnancies. The drop in maternal deaths due to HIV/AIDS has been attributed

to HIV prevention, treatment and care during pregnancy and childbirth, and specifically to the prevention of mother-to-child transmission (PMTCT) program.

Figure 1.3: Botswana maternal mortality ratio (modeled estimate per 100,000 live births), 1990-2010



Source: (World Bank, 2012b)

1.2.6 The healthcare system

Botswana's healthcare system has been based and modeled on the principles of the Primary Health Care Strategy of the Alma Ata Declaration of 1978, after inheriting a largely curative urban healthcare system from the British administration. The Botswana National Development Plan (NDP) of 1970-75 recognized that health among the population was generally poor. Health care in Botswana has subsequently been developed on the basis of health for all, emphasizing prevention of diseases and promotion of health, and expanding health services to reach all communities, particularly those in remote areas.

Infrastructure development has focused on building various health facilities in all of the country's 24 health districts. It is, however, worth noting that Botswana, like a number of other post-colonial African countries, took a public health approach to healthcare

provision even before the Alma Ata Declaration. The overlapping Botswana NDPs of 1970-75 and 1973-78 included plans to build clinics manned by regional health teams to promote both health and sanitation. The government then relied on Christian missionaries and the community to assist in providing healthcare services.

The 1973-75 Accelerated Rural Development Programme led to significant infrastructure development for healthcare, and the establishment of a nationwide network of healthcare facilities. These facilities included mobile stops, health posts, clinics, primary hospitals, district hospitals and referral hospitals which are described in Table 1.2.

Table 1.2: Health facilities in Botswana and their characteristics

Level	Characteristics
Mobile stops	Outreach services often conducted by registered nurses or midwives and health educators; telephone services. Do not use permanent buildings.
Health posts	Lowest level of the public health system. Staffed by registered nurses, midwives and health educators, and have an ambulance for referral. Doctors often come from the mother clinic or primary hospital to provide general consultations. Infrastructure typically includes a 3-5 room building used mainly for consultation.
Clinics with/without maternity	These facilities are manned by registered nurses and midwives, doctors and some technical allied health professionals, including technicians and pharmacists. Those with a maternity function provide normal delivery services.
Primary hospitals	In addition to the above, have laboratory and radiology services, and offer basic emergency obstetric care.
District hospitals	In addition to the above, sometimes medical specialists are available, or they may come from time to time to provide specialized services.
Referral hospitals	In addition to the above, specialized care is available.

This network of health facilities has allowed Botswana to provide health services to all regions in the country, and has contributed to placing Botswana's healthcare system among the best in sub-Saharan Africa (Campbell *et al.*, 2012). Mobile stops were the bedrock of health service provision, especially in remote areas, and emphasis was placed on training sufficient enrolled nurses to staff these to ensure provision of services on a daily basis (Maganu, 1990, Fako and Linn, 1994).

Health posts are primarily outpatient facilities, and being the smallest healthcare facilities often serve populations of less than 500. Primary hospitals, unlike clinics, provide both outpatient and in-patient care, with bed capacities ranging between 30 and 70. Even though the public sector is the main provider of healthcare services there are today other complementary health facilities, including two faith-based district hospitals (Kanye Seventh Day Adventist Hospital and Bamalete Lutheran Hospital) and three mining hospitals in Jwaneng, Orapa and Selibe-Phikwe. These are further complemented by other privately owned health clinics, hospitals, and testing and diagnostic services, especially in urban areas.

With regard to healthcare financing, government expenditure on health as a share of GDP grew from 2.2 percent in 1995 to 6 percent in 2010. Expenditure on health per capita grew from around US$128 in 1995 to US$615 in 2010, compared to about US$32 and US$85, respectively, in sub-Saharan Africa as a whole (World Bank, 2012b). Healthcare in Botswana is primarily tax-funded and health services are virtually free in public health facilities. Patients are charged a nominal fee of P5.00 (A$0.65). This fee covers outpatient consultation, with the poor (those members of society who are registered under the Destitute Policy Program) granted fee waivers. Maternal and

child health services and services to TB patients are also exempt from this user fee. Other out-of-pocket spending includes payments made by uninsured patients who opt to use private health care. Another form of health financing in Botswana comes from household contributions to private health insurance schemes (through premiums and co-payments). Many employers also provide medical cover for their employees. Other sources of health care funding are international donors, including bilateral and multi-lateral agencies.

1.2.7 Service delivery and utilization

For as long as the people of Botswana have tried to protect their health and alleviate sickness, the health system has remained pluralistic, with public, private, traditional and non-governmental institutions providing healthcare. Some of the most recent developments in Botswana's health service delivery plan include an Integrated Health Service Plan (IHSP) developed in 2010 and the Essential Health Service Package (EHSP) launched in 2011. The IHSP is a ten year strategic plan (which addresses the ideals of Botswana's National Health Policy) for improvement of the health status and health care of the country's population. The EHSP details promotional, preventive, curative and rehabilitative standards and a set of cost-effective interventions the government is committed to providing for the population. One of the principles included in delivery of the EHSP is human dignity. This has resulted in the promotion of patient-centred healthcare in the provision of a standardized package of basic services and the redistribution of health services through equitable access. It is recognized that the country's health service delivery still faces a number of challenges to realize these ideals, including low productivity of healthcare providers and low levels of service utilization, which also result in poor efficiency in service delivery.

Batswana have always combined both Western medicine and traditional African medicine to meet their health needs. Traditional practitioners provided most of the healthcare in Botswana until a decade after independence; in rural areas, for instance, traditional healers outnumbered modern healthcare workers (Staugard, 1986, WHO, 2001). Colonial clinics and hospitals were only visited for curative purposes, rarely for preventive purposes (Staugard, 1986, Seloilwe and Thupayagale-Tshweneagae, 2007).

Seeking to "reappraise social institutions of Tswana culture neglected and suppressed during colonialism" (Staugard, 1986:65), the new government attempted to mainstream traditional medicine with Western medicine. Because traditional medicine is deeply rooted in the people's culture, it made sense for the government to identify and allow for complementarities where possible or necessary. The National Development Plan of 1979-84, Section 14.86, for example, stated:

> Although not part of the modern health care system the traditional healer (*ngaka*) performs a significant role in Botswana, especially in the rural areas. ... The policy of the Ministry is to evaluate further the contribution of traditional healers to the health care system of the country and possibly then to seek ways of closer cooperation and consultation.

However, it would prove futile to try and integrate traditional and western medicine into the country's healthcare system. The biggest contention was that biomedical and folk medicine were built on different explanations and modes of thought, so that mutual understanding and cooperation could be very difficult (Haram, 1991). At most, cooperation created a compromise rather than a streamlined healthcare system. Legislation was passed to recognize the contribution of traditional medicine, especially that of practitioners considered to be herbalists as opposed to diviners, who were required to register with their District Councils (Staugard, 1986). But over time, with rural-urban migration and the dominance of European churches and therefore the

promotion of Christianity, which almost demonized traditional medicine, people began to rely less on traditional medicine (Feierman, 1985).

The establishment of Regional Health Teams (RHTs) (later changed to District Health Teams – DHTs) and Village Health Committees (VHCs), which largely aimed at promoting public health, also led to a shift away from traditional medicine. The RHTs and VHCs, working with Family Welfare Educators, encouraged people to build pit latrines, encouraged pregnant women and TB patients to visit clinics, and also encouraged families to grow small vegetable gardens to help improve their diet to address issues of malnutrition (Staugard, 1986).

Although a modern and western-oriented health system is now well developed in Botswana, there still exists a quite significant element of traditional healthcare which is deeply rooted in people's cultural beliefs. Botswana's health system remains pluralistic in nature, especially with western and traditional medicines used side by side. The population chooses where to seek medical care and assistance, depending on whether the illness was located in the traditional or scientific taxonomy. Although a clear-cut pattern may not be established, the traditional health system remains often the first option, based on one's beliefs and customs (Seloilwe and Thupayagale-Tshweneagae, 2007). Even when someone consults the western health system, at any point along the continuum of care he or she may seek assistance from traditional medicine, especially when the aetiology of the illness is not well understood. This was particularly common during the early years of the HIV/AIDS epidemic, when various myths regarding the disease were widespread.

What has perpetuated the use of traditional healthcare over the years (and not just in Botswana) has been unproductive patient-provider interactions and poor acceptability of health services and recommended care and treatment offered within western healthcare (Goudge *et al.*, 2009). When a patient cannot explain their illness and receives an unclear diagnosis at a health facility, they become frustrated and resort to healer shopping in pursuit of relief from the illness (Goudge *et al.*, 2009). This also happens when a patient fails to accept the treatment plan offered at a health facility and its effectiveness in healing his/her illness, which is common in the case of chronic illnesses.

1.2.8 Maternal and child health services

Maternal and child health/family planning (MCH/FP) services in Botswana originated in 1967. In partnership with the International Planned Parenthood Federation a pilot program was initiated in 1969, with volunteer family welfare educators as the main cadre for its implementation. The integration of family planning into maternal and child health has continued since then. Participation in and provision of MCH/FP services were facilitated through clinic visits, home visits, school health education, village meetings, volunteer efforts and the mass media. As the country progressed and population health needs grew, the number of service points or health facilities also grew, as well as the range of health services. Today MCH/FP services have been reoriented and now reflect the government's policy shift towards a Sexual and Reproductive Health (SRH) approach, whose goal is to improve the population's sexual and reproductive health.

This thesis focuses on Botswana's SRH objective that aims to reduce maternal and perinatal morbidity and mortality through the Maternal and Child Health (MCH) program. Given the various service components within the MCH program, this thesis focuses mainly on antenatal care (ANC) and especially the prevention of mother-to-child transmission of HIV/AIDS (PMTCT), and more narrowly on postnatal care (PNC) to help provide a manageable scope for the research.

1.2.8.1 Antenatal care

ANC is the care provided to a pregnant woman and her unborn baby through the pregnancy. It consists of various components, including identification and management of risks in pregnancy, foetal assessment, counseling on the PMTCT program, and the provision of ARVs, information and education, vaccination, teaching on nutrition and advice on avoidance of risky behaviour during pregnancy such as the consumption of drugs and alcohol, and smoking. ANC is provided at all government facilities (referral, district and primary hospitals, clinics and health posts) as well as at other private for-profit medical practices and private not-for-profit organizations.

1.2.8.2 Prevention of mother-to-child transmission of HIV

One of the most devastating facts about HIV/AIDS in Botswana is that the prevalence of the disease has remained very high among women of childbearing age. By 2003, the HIV prevalence rate among pregnant women aged 15-49 was estimated as 37.4 percent (it has since declined to 30.4 percent as at the 2011 ANC surveillance report). Maternal HIV represents a significant threat of HIV transmission to children born to women living with the HIV virus. Fortunately there are clinically proven potent interventions that can greatly reduce the risk of mother-to-child, or vertical, transmission (MTCT) of

the HIV virus. Without such intervention, it is estimated that the risk of MTCT of the HIV virus ranges from 20-40 percent. It can be reduced to as low as 2-4 percent through intervention. MTCT of HIV can occur during pregnancy, delivery or breastfeeding.

Recognizing the magnitude of the HIV epidemic early on, the government of Botswana mounted a comprehensive plan to curtail the spread of the virus to children. With considerable political commitment from the Office of the President (the then President of the Republic championing a policy drive and mobilizing support and resources both locally and internationally) prevention of mother-to-child transmission (PMTCT) of the HIV virus was launched in Botswana's public health system. After piloting the feasibility of the program in the country's two largest cities in 1999, the PMTCT program was rolled out across the country by 2002. It was integrated into routine maternal and child health services.

There are four components to the PMTCT program. These are 1) the prevention of pregnancy among young girls; 2) the prevention of unwanted pregnancies among HIV-positive women; 3) the provision of antiretroviral therapy (ART) prophylaxis for prevention of transmission of HIV from mother to child; and 4) support for mother and family, including infant formula feeding for 12 months. Once a woman is identified to be HIV-positive and enrolls into the PMTCT program, depending on her gestational age at initiating ANC, she goes through an elaborate medical pathway that requires commitment and accountability from healthcare providers and the women who participate in it. This thesis is concerned with provision of ARV prophylaxis for prevention of HIV transmission from the mother to the child during pregnancy and delivery (and therefore during a woman's ANC period) and does not cover PMTCT

postpartum. It should also be noted that it derives mainly from experiences under the PMTCT program guidelines of 2009, which have since been revised (2012) with some modifications to the PMTCT treatment protocol. For example, initiation of ARV prophylaxis for HIV-positive pregnant women has been revised to start as early as 14 weeks gestation, and not 28 weeks gestation as formerly.

The roll-out of both *Masa* and PMTCT were effectively made possible (reaching every Motswana who needed them) through a task-shifting initiative, such as are common in sub-Saharan Africa. Faced with the mammoth task of taking the HIV/AIDS prevention, treatment and care programs to all people, but constrained by an acute shortage of professional healthcare providers, task-shifting became a rational option for countries with limited health resources (WHO, 2008). The goal of task-shifting was, through redistribution of tasks among healthcare workers, to provide wider coverage at lower cost, as well as to address the issue of human resource shortage in the healthcare sector (WHO, 2008). In Botswana this has included lay counselors, who are instrumental in the provision of HIV/AIDS programs through public health facilities. Consisting mainly of secondary school graduates, lay counselors underwent four to six weeks' training. In PMTCT, they are tasked with providing counseling and support to women during ANC and PNC. These low-level cadres have become instrumental in the delivery of HIV/AIDS programs, and therefore in the population's access to services.

Lay counselors are also tasked with follow-up of PMTCT participants, even though this is often a challenge due to a shortage of resources. One of the real challenges in HIV/AIDS programs, including PMTCT, is the issue of loss-to-follow-up, with it having been found that high rates of attrition from the program are not due to mortality

(Kalembo and Zgambo, 2012). The concept of loss-to-follow-up has been defined differently in academic analysis and operationally across countries. The criterion for determining loss-to-follow-up has ranged from more stringent to less stringent cut-offs, including being from one to six months late for a scheduled consultation or medication pickup in a PMTCT program. At the time of conducting this study, Botswana did not have an official definition of loss-to-follow-up for the PMTCT program.

1.2.8.3 Postnatal care

PNC is the care and follow-up care given to a mother and her child immediately following delivery and up to six weeks after delivery. It consists of care provided to the mother and her baby during hospitalization (immediately following delivery) to ensure, among other things, prevention of infection, provision of basic needs, and baby immunization. It also involves domiciliary care, which includes a home visit by a healthcare provider within the first week after delivery (there are currently a number of challenges to consistently implementing these visits, including shortages of healthcare workers and resources to support visits), examination of the mother and baby, counseling, dietary advice, and psychological and emotional support (e.g., for those who experienced difficult pregnancies or may have lost their babies). The six weeks facility visit that the mother-child pair is encouraged to make consists of a general examination for the pair, screening for cervical cancer for the mother, counseling on family planning and provision of family planning methods, as well as a medical report or fitness certificate (especially for those women who may require one in order to return to work following maternity leave).

1.3 Statement of the problem

The government of Botswana commits a significant portion of available resources to improving the country's population health. Over the years, and most notably in recent decades, there has been a sustained and supportive political climate, sound policy and considerable financial resources for health sector development. This might indicate that healthcare performance and health outcomes among Botswana's population should be at optimum levels. But there is a progress paradox in upper-middle income Botswana. For example, while the Republic is doing much better in reducing maternal mortality than the countries of sub-Saharan Africa as whole, the same indicator is among the worst when compared with other upper-middle income countries (Botswana ranking 40 out of 44 countries). Women in Botswana continue to die from causes that can be prevented and managed at facilities across the country because services are not delivered to their full potential. Many maternal deaths in Botswana are institutional deaths, and those arising from complications of AIDS are due to late diagnosis and therefore non-use of available ARVs, or to poor monitoring (follow up and management) of women's pregnancies (Ray, *et al.*, 2013). Because of such performance failures in health service delivery, access to and utilization of services is greatly compromised.

Factors that contribute to performance failures in service delivery are multifaceted. The problems most definitely cannot all be solved by focusing on the technical and biomedical component of the health system, yet the tendency in recent times has been to assume that they could. Health service delivery is the outcome of many interrelated relationships involving different players. This makes healthcare relationships and therefore the notion of trust a fundamental element in service delivery. Understanding the role of trust, as a building block for cooperative relationships, in healthcare – how it

functions and can be built or undermined – can help improve healthcare efficiency and performance, most notably by promoting optimal access to and utilization of available health services.

1.4 Study aim and objectives

The purpose of this study is to explore women's access to and utilization of maternal and child healthcare services in a town of approximately 37,000 people in Botswana in the context of HIV/AIDS, and to identify women's explanations for the observed utilization patterns using an explanatory framework of trust in healthcare. The study uses a mixed method research approach to establish the proportions of pregnant women who opt not to attend or delay attending antenatal care, the proportions of HIV-positive pregnant women who enroll in the PMTCT program and who are lost-to-follow-up (LTFU) by that program, and the proportions of new mothers who attend PNC. The quantitative measures identified here were chosen for their potential to capture both women's engagement with the maternal and child healthcare system and the extent to which that engagement was sub-optimal. Reasons these women give for their behaviour are also investigated. The specific objectives of the study are:

1. From obstetric medical records, to determine the proportions of pregnant women and mothers who opt not to attend or delay attending antenatal care (ANC) and who attend postnatal care (PNC), and to characterize the groups that (a) attend ANC on-time, delay attending and do not attend and (b) attend PNC.
2. To determine the proportion of HIV-positive pregnant women who are enrolled in the Prevention of Mother-to-child Transmission (PMTCT) program, and of them the proportion lost-to-follow-up during ANC, and to characterize those who follow through with the program and those who do not.

3. To explore the reasons that women who avoid or delay ANC and who are lost to follow-up within the PMTCT program give for their decision-making, and the roles of trust in relation to those decisions.
4. To consider possible interventions (recommendations) that are informed by the understanding gained from this investigation.

1.5 Why focus on maternal and child health?

MCH services in the context of HIV/AIDS were selected as the vehicle for this study for five key reasons. First, the study is conducted against the backdrop of a supportive political, policy and funding environment for maternal and child healthcare in Botswana, especially in the context of the HIV/AIDS epidemic. The PMTCT program in Botswana has been one of the most acclaimed in sub-Saharan Africa. Botswana was the first country in the developing world to implement a national PMTCT program that "uses an efficacious and complex regimen to prevent vertical transmission" (Baek *et al.*, 2009: 1). Yet maternal and child health outcomes in Botswana remain poor relative to the available healthcare services and the initiatives aimed at mothers and children. While considerable effort has been made, and various services provided, to improve access to care, it is apparent that Botswana's health system has not fully met the needs of pregnant women, mothers and children. Second, MCH services were selected because of the long and general appreciation in healthcare discourse that mothers' and prospective mothers' health and that of their children are the cornerstones of public health, with associated indicators widely accepted as major development indicators (Abou-Zahr, 2003).

Third, the nature of MCH service provision over time provides "opportunities to build up, or break down patient-provider trust" (Riewpaiboon *et al.*, 2005:1409). The World Health Organization has long recognized that regular antenatal care is important. It not only allows for the establishment of good relations between women and their healthcare providers, but also provides an opportunity to urge the use of other available healthcare services that are crucial for women and children (WHO, 2005). Mechanic and Meyer (2000) agree with this, observing that interaction between people is an iterative process, wherein trust or distrust is built between them over time. In addition, African women usually have large social networks, within which a lot of information about pregnancy and associated healthcare is frequently shared (Riewpaiboon *et al.*, 2005). This practice generates oral tradition, which Airhihenbuwa (2007:12) asserts "is the customary bedrock for the production and acquisition of knowledge as well as the construction of reality in African cultures". It is during provision of care at MCH clinics that pregnant women and mothers constantly engage in negotiation with their healthcare providers on issues concerning their own and their children's health.

Fourth, studies have shown that the PMTCT program can potentially deliver 'zero transmission' of the virus from mother to child. Various clinical trials and other research have indicated that the risk of transmission from mother to child in Botswana can be reduced from 40 percent to two percent through the PMTCT program (Shapiro *et al.*, 2005b, Thior *et al.*, 2006, Shapiro *et al.*, 2009, Shapiro *et al.*, 2010). It is therefore reasonable to argue that "the issues surrounding outcomes of antiretroviral therapy (ART) programs in low-income countries are not primarily related to questions of drug efficacy…, but are programmatic" (Lawn *et al.*, 2005:1683).

Selecting MCH, and looking at PMTCT in particular, was borne out of frustration with various evaluation reports on the PMTCT program (Creek *et al.*, 2007, Gaolathe *et al.*, 2008, Baek *et al.*, 2009, Creek *et al.*, 2009, Abou-Zahr *et al.*, 2010), which all too often indicated satisfaction with program uptake but provided few if any details about the magnitudes of LTFU and defaulting. This limitation was in spite of the fact that the reports typically indicated generally that there was a problem with patient LTFU in the program. Unless the magnitudes of LTFU and defaulting are known, the effectiveness of a program in a target population cannot be fully understood. Hence the need to investigate the patterns of MCH service use in the context of HIV/AIDS. Simply stating that the use of antenatal care services in Botswana is satisfactorily high – often estimated at 95 percent by various national and international organizations, including the WHO – is no longer sufficient given the serious HIV/AIDS epidemic in the country. On the other hand, HIV/AIDS is an illness of varying severity, and there exists some uncertainty about its prognosis for individual patients. This potentially leads to extended relationships with healthcare providers, ultimately increasing the saliency of trust in the provision of care.

Fifth, many women and children in sub-Saharan Africa continue to be excluded, one way or another, from the healthcare to which they are entitled. The need for a continuum of care aimed at mothers, newborns and children remains a critical goal for the region's health systems. However, not only are cases of maternal, newborn and child mortality under-reported; women and children also simply do not appear at health facilities in numbers commensurate with presumed morbidity rates. Thus, while some countries in sub-Saharan Africa (including Botswana) have made considerable efforts to improve access to and provision of adequate MCH services, sub-optimal use of these

services remains a significant problem. This reality couples with the fact that large numbers of women and children die each year in sub-Saharan Africa from preventable and treatable pregnancy-related and birth-related conditions which simply need early and/or timely diagnosis to treat and prevent onward transmission. At a workshop conducted by the Botswana Harvard Partnership for HIV/AIDS prevention and the Ministry of Health in September, 2011, researchers stated that the PMTCT program could benefit more women and children if diagnosis, and especially a test done for HIV-positive patients to monitor their immune systems and determine when they can be started on ARVs (the CD4 count), was to be done in a timely manner.

1.6 Organization of the thesis

This thesis consists of eight chapters. Following this introductory chapter, Chapter 2 reviews relevant literature. Chapters 3 and 4 then respectively detail the research methods used and introduce the study setting and population. They are followed by three analytic chapters. Chapter 5 is focused on antenatal and postnatal care attendance. Chapter 6 then examines patterns of service utilization and of uptake of and retention in the prevention of mother-to-child transmission of HIV program. Both of these chapters are substantially quantitative in their content. In Chapter 7 the qualitative data are more centre stage as women's lived experience of the healthcare system is explored through their explanations for their health service utilization patterns. The thesis concludes in Chapter 8 with a summary of key findings, discussions of their implications for the health system in Botswana and of what the thesis has contributed, and a series of recommendations for improving maternal and child healthcare in the country.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Through the years since the launch of the Safe Motherhood Initiative in 1987, maternal and child healthcare (MCH) in developing countries, especially those of sub-Saharan Africa, has retained its priority status in healthcare initiatives and research (Koblinsky *et al.*, 1994, Jowett, 2000, Miller *et al.*, 2003, Ensor and Ronoh, 2005, Borghi *et al.*, 2006, Shiffman, 2007, Cavagnero *et al.*, 2008, Bennett and Ssengooba, 2010, Friberg *et al.*, 2010, Whitworth *et al.*, 2010). MCH has not only remained a priority across the African continent, but is also one of the most important health sub-systems. It is a health sub-system that is important in dealing with the deaths and disability that emanate from pregnancy and childbirth complications; it has also been used as a key indicator of the overall health status of all, and as a proxy indicator for human development (UNDP, 2006, UNICEF, 2009).

To date countries of sub-Saharan Africa have revised policies, reviewed services and made considerable efforts to improve MCH outcomes, albeit with mixed results. These initiatives and the sustained interest in women's and children's health in countries' human services agendas have been made possible by development partnerships and assistance in healthcare. One such initiative has focused on health system strengthening for MCH, which is seen as a moral and political imperative of our times (WHO, 2005).

The need to amass political will to provide an enabling environment to improve health systems and health outcomes for women and children in Africa has been driven by the disproportionate burden of disease upon them. It has also been driven by the global

move towards social justice on matters deemed to be human rights, with every woman and child, regardless of where they live, having a right to adequate healthcare. Home to less than 15 percent of the world's population, Africa has the highest proportion of the world's maternal, newborn and child deaths (Kinney *et al.*, 2010b). With the prevailing HIV/AIDS pandemic and no concerted effort to strengthen healthcare systems and improve health outcomes for women and children, the situation could have been worse. The health system strengthening initiative for MCH has been, and still is, a fundamental obligation since the Safe Motherhood Initiative.

Stimulating interest and commitment from governments, the Safe Motherhood Initiative was aimed at addressing the glaring numbers of maternal deaths and associated morbidity by cutting those deaths in half by the year 2000. However, when 2000 came around governments and their international partners realized that progress towards agreed goals was trailing behind. New commitments had to be made and renewed targets set, resulting in the present day Millennium Development Goals (MDGs). Two of the eight targets set, MDG4 – reducing child mortality, and MDG 5 – improving maternal health, are the focus of this thesis. It was through these renewed commitments and targets for women and children that it was also agreed that the key to achieving them by 2015 was stronger health systems than the weak and fragmented systems then in place (Jarrett and Ofosu-Amaah, 1992, Travis *et al.*, 2004, Alvarez *et al.*, 2009, Chopra *et al.*, 2009, Friberg *et al.*, 2010, Yakoob *et al.*, 2011)

This literature review is concerned with providing a brief appraisal of the work that has been done with regard to maternal and child health service utilization. Because literature relating to various aspects of maternal and child health in Africa and Botswana is

provided in later chapters of the thesis, in this chapter more attention will be given to how access to and utilization of maternal and child health services was conceptualized, after reflecting on how it has been conceptualized in previous studies. This is done so as to situate the thesis in well documented findings relating to women's access to and utilization of health services – to highlight the lacunae that the thesis seeks to fill.

2.2 Literature review process

Seeking to provide a more robust appraisal of works on maternal and child health service use, studies from across sub-Saharan Africa, and specifically where appropriate studies from Botswana, have been interweaved in the review and highlighted. These studies were selected because they were deemed to provide adequate levels of detail about the methods used to carry out the research. No period was set when conducting a search for relevant studies, but there was interest in including earlier works (mainly since the Primary Health Care strategy of 1978, which later became the bedrock for healthcare development in Africa) and more recent works in a bid to provide reasonable comparison of work undertaken over the years.

The literature that formed the basis of this review was obtained from government electronic databases and international organizations such as WHO, UNICEF, the World Bank and UNFPA. Other online search systems that were used to find relevant literature included PubMed, Google Scholar, PLOS Medicine and ResearchGate. To obtain other relevant literature, the reference lists of publications obtained through the above sources were also searched for further relevant literature.

2.3 Maternal and child health in sub-Saharan Africa

That women and children in sub-Saharan Africa continue to die from preventable and treatable conditions, including mortality from obstetric complications during pregnancy and childbirth, is well established (Rosenfield and Maine, 1985, Miller *et al.*, 2003, Lawn *et al.*, 2006, Bennett and Ssengooba, 2010, Kinney *et al.*, 2010b). Some of the reasons for this situation are the social environments that shape women's lives, as well as weak and failing health systems that are not able to respond appropriately and in time to women's and children's health issues (Bennett and Ssengooba, 2010, Kinney *et al.*, 2010b). With the African continent bearing an unprecedented proportion of the world's disease burden, women in sub-Saharan Africa bear a greater burden than their male counterparts in the region. This burden also affects their children, as women's health is inextricably linked to that of their children.

Women and children's access to and utilization of healthcare services (their health-seeking behaviour) is an area that has received longstanding interest, and therefore has been widely researched by population health academics (Mburu *et al.*, 1978, Mangay-Maglacas and Pzzurki, 1981, Mahler, 1987, Maine, 1988, Ahmed and Mosley, 1997, Tautz *et al.*, 2000, Letamo and Rakgoasi, 2003, Myer and Harrison, 2003, Pretorius and Greeff, 2004, Cham *et al.*, 2005, Gage, 2007, Kebaabetswe, 2007, Simkhada *et al.*, 2007, Creek *et al.*, 2009, Mrisho *et al.*, 2009, Abosse *et al.*, 2010, Kyei *et al.*, 2012). When African healthcare systems improved from rudimentary and health services became broad and comprehensive, access and utilization problems persisted (Bloom, 1988, Berer and Ravindran, 2000, Silal *et al.*, 2012, Dzakpasu *et al.*, 2013). The literature is therefore replete with studies that demonstrate determinants of African women and children's access to and utilization of available health services.

2.3.1 Maternal mortality

The total number of maternal deaths worldwide declined from 543,000 in 1990 to 287,000 in 2010, a remarkable decline of 47 percent in two decades (WHO *et al.*, 2012). However, progress has been slower in some regions of the world. Across the MDG regions, the highest reduction was in Eastern Asia (69 percent), followed by Northern Africa (66 percent), Southern Asia (64 percent), sub-Saharan Africa (41 percent), then Latin America and the Caribbean (41 percent), Oceania (37 percent) and the Caucasus and Central Asia (35 percent). Of the 287,000 global maternal deaths in 2010, 56 percent occurred in sub-Saharan Africa. Due to cultural practices and poor use of or access to contraception, women in developing countries have higher numbers of pregnancies than women in developed countries, which means that their lifetime risk of pregnancy-related death is also higher. The lifetime risk of maternal death for women in sub-Saharan Africa is 1 in 16, compared to 1 in 2,800 in developed countries (WHO *et al.*, 2012).

It is understood that maternal mortality, defined as deaths of women during pregnancy, childbirth, or in the 42 days after delivery where this death is caused by or aggravated by the pregnancy or its management, has remained a persistent challenge the world over, but especially in sub-Saharan Africa (Hogan *et al.*, 2010, WHO *et al.*, 2012). This is partly due to the fact that there can never be a single, simple, straightforward approach to reducing maternal mortality (Alvarez *et al.*, 2009). Emanating mainly from obstetric causes, many healthcare systems in sub-Saharan Africa have not been able to respond adequately to these causes. Post-partum haemorrhage, hypertensive disorders, abortions and obstructed labour are some of the obstetric causes that have claimed the lives of many women in sub-Saharan Africa (Walraven *et al.*, 2000).

The nature of these complications is such that they place a woman in need of emergency obstetric care. This places a critical imperative on making the necessary healthcare readily available and accessible to the woman, which in turn requires an accountable and responsive health system. It is for this reason that there is a general consensus that while various approaches and interventions could be employed to save women's lives, stronger, accountable, accessible and responsive healthcare systems are the cornerstones for any truly effective initiatives (Jarrett and Ofosu-Amaah, 1992, Travis *et al.*, 2004, WHO, 2005).

2.3.2 Child mortality

Sub-Saharan Africa remains the region with the highest risk of dying before reaching age one – 69 deaths per 1,000 live births in 2011, or more than 11 times the rate for developed countries (UNICEF *et al.*, 2012). Overall, slow declines in neonatal mortality (deaths in the first month after birth) have been recorded globally, increasing from 36 percent of under-five deaths in 1990 to 43 percent in 2011 (UNICEF *et al.*, 2012). Except for Oceania, sub-Saharan Africa has shown the least progress in improving neonatal mortality, these two regions exhibiting 23 percent and 24 percent declines respectively between 1990 and 2011. Eastern Asia had the fastest reduction (61 percent), followed by Latin America and the Caribbean, and Northern Africa (both at 55 percent).

On the other hand, the number of under-five deaths declined globally from nearly 12 million in 1990 to 6.9 million in 2011 (UNICEF *et al.*, 2012). However, sub-Saharan Africa has again fallen behind other regions in reducing under-five mortality – combined with South Asia, the two regions accounted for 83 percent of global under-

five deaths in 2011 "while the share in the rest of the world dropped from 31 percent in 1990 to 17 percent in 2011" (UNICEF *et al.*, 2012:1). Nevertheless, while 1 in 9 children died before age five in sub-Saharan Africa as of 2011, this should not cloud the fact that significant declines in mortality for this age group have been observed in the region, with the 1990-2000 reduction from 178 to 154 deaths per 1,000 live births having accelerated during 2000-2011 with a further decline to 109 deaths per 1,000 live births (UNICEF *et al.*, 2012).

Globally, more than a third of under-five deaths are attributable to under-nutrition (UNICEF *et al.*, 2012). Pneumonia, preterm birth complications, diarrhoea, malaria and intrapartum-related complications are the leading causes of under-five mortality in sub-Saharan Africa (Kinney *et al.*, 2010a, UNICEF *et al.*, 2012). As is the case with maternal mortality, these health issues require that this group of the population be provided with effective and immediate care at any level of the health system.

2.4 Healthcare delivery for women and children

Improving the quality of life for African women and children has been a topic of academic debate for a long time. The primary health care strategy of health promotion among African populations was launched following a realization that simple transfer of western medical models to African countries was not yielding anticipated results (Abou-Zahr, 2003). Through this strategy approaches to health development focused on a commitment to adopting a comprehensive health model that addressed various underlying aspects of health, including its social, political and economic determinants. It soon emerged that addressing the health status of women and children in Africa was much more complex than previously assumed. Efforts were often mixed and debates on

the best approach to respond to women and children's health needs were polarized. On one side there were those advocating vertical approaches to the implementation of health interventions, and on the other, those who advocated horizontal approaches (Travis *et al.*, 2004, Atun *et al.*, 2008, Ooms *et al.*, 2008).

Vertical approaches in health development often meant that programs (especially those provided through donor and other non-governmental agencies) focused exclusively on a single problem. The motivating factor was that by keeping them separate from corrupt and poorly functioning government systems, donor resources would be used more efficiently and effectively. However, this only resulted in duplication of health services and neglect of other equally important and needed services. Horizontal approaches on the other hand advocated a holistic approach to health development, service integration being the key to ensuring diseases or specific health challenges were not addressed in a silo. With the realization that women and children's well-being required a well-functioning and accessible healthcare system, vertical approaches to health development came to be understood as limited in addressing their healthcare needs (Abou-Zahr, 2003, Atun *et al.*, 2008, Béhague and Storeng, 2008).

While the health needs of women and children in sub-Saharan Africa are a multifaceted issue, under-resourced health services have exacerbated the effects of various factors affecting their health. The factors that affect women and children's health emanate from their social and cultural environment, as well as from the political and economic environment within which they live. Stable and good economic environments, as well as non-harmful cultural practices have the potential to contribute positively to good health outcomes among women and children. However, functioning healthcare systems remain

one of the pivotal components for better maternal and child health outcomes. Through promotion of healthy behaviours and improved access to and utilization of available health services, the healthcare system can contribute significantly not just to women and children's health but also to their social status. Efficacious interventions to deal with most of the causes of maternal and child mortality are well known and available (although sometimes only at policy level and not implementation level). However, the provision of these interventions has remained limited in a number of ways across the African region.

First, there has always been insufficient investment by national governments to make the services physically available to the women and children who need them. This inadequate investment in public health systems, particularly their underfunding, has in turn resulted in scarcities of health resources that have yielded poor content and quality in health services. Further to low investment in healthcare, other key challenges have persisted for a long time in the region that have affected health outcomes for women and children. These have included low economic growth rates, a dearth of comprehensive health financing policies and strategic plans, substantial reliance on out-of-pocket payments, limited financial access to health services, limited coverage by health insurance, and a lack of social safety nets to protect the poor (WHO, 2006b). It has been noted that "household spending on health care has amounted to almost half of all sub-Saharan Africa health care expenditure and yet … the majority of the African population does not have adequate access to health care" (Quaye, 2010:v).

The challenge of promoting investment in healthcare is hampered by the fact that it exists within other challenges, including social and economic underdevelopment and

dependency upon external funds for health. International mobilization of resources for health in sub-Saharan Africa is certainly not a new phenomenon. African countries have always needed assistance with healthcare funding as the continent has struggled through the tough times of huge national debts, world economic recessions and the structural adjustments of the early 1990s (Loewenson, 1993). However, it soon emerged that such problems as inefficient resource use, ineffective aid, and weak mechanisms for coordinating partner support in the health sector were continuing to hamper provision of efficient and effective healthcare in the region. Adopting the Primary Health Care strategy to meet the health needs of all across the African continent remained particularly difficult.

Second, the struggle to provide universal access to efficacious health interventions (especially those geared towards HIV/AIDS care, treatment and prevention) for the African masses has been encumbered by yet another challenge – the fact that governance, accountability and management in public healthcare systems in sub-Saharan Africa has not always been effective (WHO, 2006b). These shortcomings have been some of the stumbling blocks to achieving the broader goals of access, equity, efficiency and effectiveness for optimal health outcomes in countries' healthcare systems. Governance can be viewed as an overarching concept embracing accountability and management – it has been defined as "a process whereby societies or organizations make their important decisions, determine whom they involve in the process and how they render account" (Graham *et al.*, 2003:1). Generally relating to processes that enable countries to ensure sustainable economic opportunities, governance has been shown to have a strong association with health outcomes (Olafsdottir *et al.*, 2011). Good governance, through appropriate standards, incentives,

information, and accountabilities which induce high performance from public providers, promotes effective delivery of health services (Lewis and Pettersson, 2009).

Good governance in healthcare, through appropriate use of health resources, is necessary for efficient and effective delivery of services. Poor management in the health sector often leads to poor supervision, poor provider performance, and poor use of limited resources as well as corruption. In the end, the public are not able to access and utilize health services, as sometimes they have to pay for services that should be available cost-free, such as having to purchase medications from private pharmacies, having to bribe healthcare providers in order to receive care, or having to travel longer distances than should be necessary in pursuit of services (Mugo, 2013). Due to poor governance in healthcare, problems such as shortages of healthcare providers are made worse by other problems, such as chronic absenteeism among providers (Lewis and Pettersson, 2009, Deussom *et al.*, 2012). Governance failures in healthcare mean that the necessary mechanisms to hold healthcare providers accountable to their employers as well as to the patients they are supposed to serve are not effective. This in turn affects service delivery, with services not provided or else the quality of the services provided being compromised.

These challenges in healthcare systems have contributed to inequitable access to healthcare, especially among women and children. That the African continent is trailing behind the rest of the developing world towards achieving the MDGs is indisputable (Abou-Zahr and Boerma, 2010). Ineffective use of available cost-effective interventions in healthcare continues to be cited as one of the missing links in achieving desired goals. Hence the need for continued academic analysis geared toward understanding health

service utilization phenomena (Tumusiime *et al.*, 2011).

2.5 Factors associated with utilization of maternal and child health services

The prevailing interest in determinants of the utilization of maternal and child health services does signify that health service utilization by women is a particularly complex behavioural phenomenon. The context and mechanisms that influence and shape utilization are typically in a constant state of change. That is why normative assumptions about understanding utilization phenomena cannot just be about identifying the factors that enable or discourage utilization, but also need to focus on understanding and identifying the underlying mechanisms that make those factors flourish or fail to flourish. So it can be asked, to what extent have studies of women's access to and utilization of health services provided this understanding?

Conceptualization of the determinants of health service use among women in sub-Saharan Africa has undoubtedly undergone a substantial metamorphosis. Studies have moved away from early perceptions that drew from the then dominant prejudiced view about Africa and Africans, often perceiving their preference for traditional healthcare as primitive (Hughes and Hunter, 1970, Weisz, 1972, Goody, 1978, Stock, 1986). For some time now in postcolonial Africa the perspective has shifted towards appreciating that traditional African healthcare systems and the Western healthcare system can coexist (Mangay-Maglacas and Pzzurki, 1981, WHO, 1979, Msonthi, 1983, Barbee, 1986). In maternal and child healthcare there began in particular to be concerted efforts geared towards incorporating traditional birth attendants (TBAs) in the provision of maternal and child healthcare (WHO, 1979, Msonthi, 1983, Eades *et al.*, 1993). This approach was brought about by an understanding, derived from studying factors that

influence women's health service use, that cultural beliefs played a significant role in women's decision-making during childbirth.

Methods of studying healthcare-seeking behaviour among women in sub-Saharan Africa vary, and there is no one commonly applied approach. Population-based surveys, including household surveys, facility-based surveys and ethnographic studies have all been used to study women's access to and utilization of health services. In the end, research on women's access to and utilization of health services has made a considerable contribution to the identification of factors that influence health service use. Studies have demonstrated that women's access to and utilization of maternal and child health services can be influenced by factors operating at individual, household, community and health system levels (Mburu *et al.*, 1978, Mangay-Maglacas and Pzzurki, 1981, Ahmed and Mosley, 1997, Rutstein, 2000, Mekonnen and Mekonnen, 2003, Ikeako *et al.*, 2006, Simkhada *et al.*, 2007, Babalola and Fatusi, 2009, Abosse *et al.*, 2010, Kruk *et al.*, 2010, Kyei *et al.*, 2012).

The specific factors that have been identified over the years have remained more or less the same. A recent approach has been to emphasize country context as well as an appreciation of differentials that may exist even within country settings given the social gradients that exist in given settings (Stephenson *et al.*, 2006). Focusing on various aspects of maternal and child healthcare, including contraceptive use, ANC, use of skilled birth attendants and PNC, a number of factors operating at each of the levels listed above have been specified and studied.

Factors operating at the individual level have included mainly socio-economic and demographic factors such as place of residence, age, parity, economic status, health status, education, religion, perception of and knowledge about services as well as marital status. These characteristics are not directly responsible for service utilization, but rather have been found to predispose certain women towards service utilization. For example, women with more years of formal education, and therefore greater knowledge about healthcare and available health services, have been found to have a higher likelihood of utilizing services than women with less years of formal education (Ikeako *et al.*, 2006, Greenaway *et al.*, 2012).

Identified household and community-level factors that influence health service use include mainly economic resources and the availability of health services. These factors are viewed as enabling factors because they allow women to actualize their healthcare-seeking behaviour given other predisposing factors. Family income, for example, relates to the amount of financial resources that are available for a woman to use towards health-related costs, including transportation costs and the purchase of medical supplies when needed (Borghi *et al.*, 2006, McTavish *et al.*, 2010, Dzakpasu *et al.*, 2013). The local environment within which a woman resides has also been found to influence utilization behaviour, with women resident in rural areas, for example, found to not utilize health services in as large numbers as women resident in urban areas (Addai, 2000, Kruk *et al.*, 2010, Silal *et al.*, 2012). At institutional level, factors that have been identified include perceived quality of care, health need (perceived or evaluated) and satisfaction with care provided. Associating satisfaction with quality of care, it has been reported that women who are satisfied with various aspects of their healthcare experience, including short waiting times and healthy relationships with their healthcare

providers, are more likely to utilize services than women who are not satisfied (Mathole *et al.*, 2004, Nnyepi *et al.*, 2006).

Studies based on population surveys have provided ample evidence on various factors that influence health service use among women. Such studies are, however, limited in the insights they provide into the social context within which healthcare-seeking behaviour occurs. Neither have such studies provided clear understandings of the causes of utilization patterns that can be observed among service users. In fact, even though various factors have been identified as determinants of healthcare-seeking behaviour, studies have demonstrated varying patterns of use, even under superficially similar conditions. For example, while Magadi and co-authors (Magadi *et al.*, 2000b) found that higher parity was generally a barrier to the use of ANC, women of high parity were found to have utilized ANC more than primiparous women in an Ethiopian study (Mekonnen and Mekonnen, 2003).

What the population survey-based literature has created is a gap in our understanding of social relations in healthcare. This is where qualitative and ethnographic studies have come in. Such studies have been able to shed light on why women act the way they do with regard to health service use. They are able to elucidate health service utilization in the social context of individual women, therefore providing an insight into the role of social influence. Some such studies include studies of the perceptions of women towards maternal and child health services (Myer and Harrison, 2003, Mathole *et al.*, 2004, Mrisho *et al.*, 2009). Studies of patients' satisfaction with services have also indicated that patients who trust their healthcare providers are more likely to be satisfied with the services provided and to utilize the same services whenever needed (Nnyepi *et*

al., 2006, Bamidele *et al.*, 2011). While trust has been indicated to be a factor that influences healthcare-seeking behaviour, its inclusion as an important independent variable that is worth exploring against other variables is yet to be fully evaluated (Gilson, 2003, Gilson, 2006).

2.6 Thesis conceptual framework

In spite of its well-entrenched understanding as a fundamental element in human interdependence, trust remains without a universal definition. In this thesis the definition of trust that has been used derives from the writings of scholars in the healthcare literature. Central to the definition of trust in the medical field is that trust embodies an optimistic acceptance of vulnerability on the part of the trustor that the trustee will act in their best interest (Barber, 1983, Govier, 1993, Mayer *et al.*, 1995, Cook, 2001).

Mayer *et al* (1995:712) define trust as:

> The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.

The conceptualization of trust contained herein is that the trustor is willing to accept vulnerability to possible ill will, but believes that only good will exists on the part of the trustee and not ill will. In other words the trustor's willingness to trust is based on the expectation that his/her vulnerabilities will be protected rather than exploited (Davies, 1999). According to Mayer *et al* (Mayer *et al.*, 1995) the trustor makes him or herself vulnerable in that there is potential to lose something important, thereby requiring willingness from the trustor to take the risk. Hall *et al.* (Hall *et al.*, 2001) theorize that the absence of vulnerability negates the need for trust – the greater the risk, the greater the potential for either trust or distrust. However, the need for trust has also been

demonstrated to be significant in primary care interactions where the degree of risk may be perceived to be small. Using game theory, Tarrant *et al.* (2010) found that patients were consistently drawing on institutional and interpersonal trust to begin and continue utilizing primary care services involving low health risks, with such trust set in the context of relationships that were expected to continue into the future when their vulnerability might be greater.

Application of the construct of trust is therefore inevitable in healthcare. Vulnerability is a common and unavoidable element in medicine – illness and the need for invasive treatments creates vulnerability on the part of the patient. Almost all medical care interventions involve some level of risk which both healthcare providers and patients always incorporate into their decision-making process. On the other hand, uncertainty in the practice of medicine is exacerbated by viral epidemics such as the HIV virus, which is tenacious and difficult to deal with because its nature is not yet fully understood (Celentano *et al.*, 2008). Patients enter the healthcare system initially relying on a blind or naïve trust that is predicated not on the presence of evidence, but on a lack of contrary evidence that could result in distrust. This, however, does not simply translate into ascribing trustworthiness to healthcare providers or the healthcare system.

The concept of trustworthiness suggests that the trustee has to exhibit certain characteristics and actions that will lead to them being more or less trusted (Mayer *et al.*, 1995). In addition, just as the characteristics of the trustee are important, so are those of the trustor – the degree to which the personality trait of trust that can lead to a generalized expectation about the trustworthiness of others exists – the propensity to trust (Mayer *et al.*, 1995). In this regard, "trust begins with keeping oneself open to

evidence, acting as if one trusted, at least until more stable beliefs can be established" (Gambetta, 1988:235) on the basis of interactions. It is for this reason that scholars posit that having a positive attitude is necessary to constitute trust (Mayer *et al.*, 1995, Hall *et al.*, 2001). Hall *et al.* (2001:616) explain this clearly when they state that:

> Certain behaviours may indicate the possibility of trust, but they do not constitute trust itself, which is fundamentally an attitude. For example, one who seeks care could, by virtue of this behaviour, be considered to have some level of trust, but this is not necessarily so. Trust has a subjective component that requires an optimistic acceptance of vulnerability with certain positive expectations .... However, some patients may not adopt this positive attitude, even when trust-related behaviour is required by their circumstances, but instead may enter treatment relationships with a wariness or pessimism that characterises distrust.

An individual therefore goes out to seek necessary care based on the assumption, and the generally held norms and beliefs, that they will receive care, and that healthcare providers will meet their role obligations (Mechanic and Meyer, 2000). Thus the initial interaction of the patient with the healthcare provider or the healthcare system is based on the patient's expectation that healthcare providers will demonstrate impartial concern for the patient's well-being. A study conducted in South Africa found that healthcare users would try out different public health centres or services available to them until they found one that best matched their expectations (Erasmus and Gilson, 2007).

However, if choices are limited they may access services from the same facility, but with a wariness that could lead to less rational forms of utilization. Thus, based on the expectations that the patient has regarding healthcare, the patient begins with a willingness to enter into a relational contract with the healthcare provider and the healthcare system with some degree of confidence regarding their trustworthiness (dependability and reliability). In such situations trust can be viewed not just as a

neutral and benevolent concept, but rather as a manufactured concept within the inherent social relationships of health care (Gilbert, 1997). Gilbert concludes that "trust is a mechanism within the power relations of caring" (Gilbert, 1997:1010), where trust or distrust may be fostered by the reconstruction of day-to-day care interactions (Giddens, 1993). It therefore behoves healthcare providers and health policymakers to understand how this mechanism functions.

2.6.1 The Andersen behavioural model of health service use

The Andersen behavioral model (ABM) of health service use is expanded in this thesis (Andersen, 1995). The ABM is an explanatory framework that has been used to identify predictors of health service utilization. Andersen postulates that there are several predictable factors that influence health service use. In the most recent explication of the ABM these have been identified to incorporate individual and contextual determinants of service utilization, and designated as predisposing, enabling and need factors (Andersen and Davidson, 2001).

Predisposing factors generally represent an individual's inclination to use available health services based on attributes such as their demographic characteristics, mental factors (their health beliefs) and their social structures. Enabling factors on the other hand include mainly financial and organizational factors that facilitate service utilization. Other factors, the need factors, include the individual's perceived need for health services as well as her/his evaluated need. Surrounding all three identified components of the ABM there are the contextual factors (i.e., the circumstances and environment of health care access) that may also predispose, enable and accentuate an individual's need to use health services (Andersen and Davidson, 2001). These may

include demographic composition of a community in the case of predisposing factors, health policies and financial resources for health in the case of enabling factors, and health-related measures of the physical environment in the case of need factors (Andersen and Davidson, 2001).

As already indicated in preceding sections of this chapter, the various factors identified by Andersen have been widely used by scholars as explanatory variables for health care utilization. Based on various social theories of trust, the ABM was expanded in this thesis to include trust as a notable and worthwhile predictor of healthcare utilization. There is no doubt that maternal and child healthcare has undergone substantial change due to efforts geared towards HIV/AIDS prevention, treatment and care. As new evidence and more understanding about the epidemic emerge, services are revised and protocol guidelines are adapted accordingly. These revisions and adaptations to clinical interventions also bring about opportunities for things to go wrong; it has been argued that "greater opportunities for intervention also increase the potential for harm" (Healy and Dugdale, 2009:1). Although a much celebrated and welcome intervention for the prevention of mother-to-child HIV transmission, for example, it has been demonstrated that the use of highly active antiretroviral therapy (HAART) increases the risk of adverse pregnancy outcomes, although results are mixed (Dalyce *et al.*, 2009, Sturt *et al.*, 2010, Darak *et al.*, 2013). As Healy and Dugdale (2009:1) so rightly pronounce:

> The Hippocratic injunction, 'first, do no harm', thus has new relevance for modern medicine, and patients now are less reassured by the mantra 'Trust me, I'm a doctor'.

The notion of trust in healthcare should not be assumed to be a new construct necessitated by recent changes in the health sector. Authors from various disciplines, including sociology (Mollering, 2001, Meyer and Ward, 2008, Ward and Meyer, 2009),

public health (Thorne and Robinson, 1989, Hall *et al.*, 2002a, Gilson, 2006, LaVeist *et al.*, 2009, Jones and Barry, 2011b, Ozawa and Sripad, 2013) and psychology (Silvester *et al.*, 2007) recognize trust as a fundamental element for effective relationships, at both interpersonal and institutional levels.

One of the post-structural sociologists, Niklas Luhmann, has theorized that trust is the medium of interaction between social systems and the representatives of those systems (Luhmann, 1988). Because of the communication that occurs within social systems, he argues that it is the notion of trust that functions to reduce tensions or complexity within them, thereby according them the ability to cooperate with each other. Expanding this further, trust has been argued to accord individuals the ability to make decisions and act on those decisions, where without trust continuous vigilance, anxiety and reclusiveness would prevail (Mechanic and Meyer, 2000, Pearson *et al.*, 2005). The decision an individual makes to trust or not trust others or the system can derive from past experiences as well as from risks that may be associated with a decision.

Women, who also face a fork in the road about their health, often weigh what the likelihood of an outcome would be for any particular action they may take. For example, a woman in Botswana who suspects she is pregnant now knows that when attending ANC she will also be encouraged to test for HIV. If she is found to be HIV-negative, that would be good. However, if she is found to be HIV-positive then she has other things to worry about on top of her positive HIV prognosis. She may need to participate in PMTCT, or disclose her status to her partner and/or other family members, issues that she may not be ready to deal with. However, given the risks she is likely to pose to herself and her unborn baby, she may choose to place her trust in future

expectations, including that healthcare providers will be able to assist her to navigate her impending healthcare trajectory.

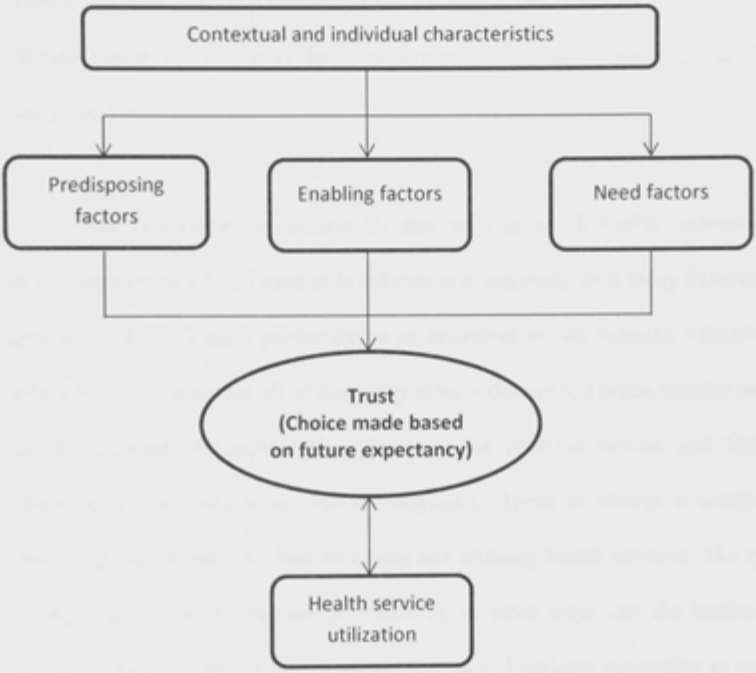
In this thesis the Andersen behavioural model has been extended to include trust, which is seen as important in its own right, first as intrinsic to the medical profession but mainly as instrumental to healthcare cooperation (Hall *et al.*, 2002a). Figure 2.1 provides an outline of the ABM with this extension. The extended model hypothesizes an association between health service utilization and trust – general trust in healthcare providers and the healthcare system shapes the individual's intention to utilize health services. In this model, trust is seen as the lubricant that gives motivation towards the behavioural intent of health service utilization, functioning in the context of the prevailing individual and contextual factors influencing health service use. The conceptual model represents the aim of this thesis, which is to underscore the need for a paradigm shift in access and utilization behaviour in Botswana in particular, and in sub-Saharan Africa in general.

2.7 Conclusion

Trust is a fundamental element that allows people to function well in society, and is therefore an instrumental aspect of healthcare relationships. It is critical to healthcare relationships because it has been shown to accord patients the willingness to seek care, to disclose sensitive information about themselves, and to accept treatment and healthcare recommendations provided to them. In an era when primary care is highly medicalized and various treatment options require continuity of care, understanding the role of trust in healthcare is imperative. Promoting academic analysis of the construct of trust in healthcare will not only help improve women's access to and utilization of

health services, but also provide a proximate measure of how well the healthcare system is performing.

Figure 2.1: Conceptual model of trust and health service use



The literature on reasons for suboptimal use of maternal and child health services (e.g., late attendance, non-attendances, loss-to-follow-up) has pointed to a number of factors influencing these patterns. But it is yet to provide a clear mechanism that provides an understanding of how these various factors actually flourish or are undermined, thereby limiting the identification of effective interventions to address the factors. Because trust is a key element to positive relationships and very central to how we interact with each other, its exploration as a factor that shapes utilization behaviour in its own right can help provide this understanding. This is especially important because access to and

utilization of health services does not only concern visiting a health facility. It also concerns being provided with and accepting actual services at the right time when sought. Taking this humanistic approach to exploring the underlying mechanisms and context surrounding service utilization we can appreciate that women make rational choices based on their individual circumstances, including those derived from service design and delivery.

The conceptualization of access to and utilization of health services that takes cognizance of the role of trust in healthcare is a necessary shift away from the taken-for-granted trust in medical professionals so prevalent in sub-Saharan Africa's healthcare interaction. It is true that all of humanity always desires to remain healthy and to be free of any ailments throughout the life span, but ultimate actions and intent towards attaining optimal health are not so simplistic. There is always a weighing up and balancing out of choices when accessing and utilizing health services. The question that is important in health service provision is, in what ways can the healthcare system support, empower and enable women (and indeed patients generally) to make choices that can lead to optimal health outcomes all, or most of, the time?

CHAPTER 3

RESEARCH METHODS

3.1 Introduction

This chapter provides a detailed account of the theory and methods used to collect data for this study of maternal and child health and trust in healthcare providers and the healthcare system. Also covered is the approach taken to interpret the data collected. In addition, some of the limitations of the methods of data collection used are highlighted, as well as other relevant issues encountered during the data collection process.

The methods used explore trust in healthcare within a developing country's healthcare setting, and how such research may differ from similar work in a Western healthcare setting. The central aim is to understand the role played by trust in health-seeking behaviour among pregnant women and mothers, especially in the context of the HIV/AIDS epidemic in Botswana, a developing African country with a serious HIV problem. An ancillary aim is to add a dimension to the continuing debate on methodological issues for investigating trust in healthcare, especially in developing countries, where research of this nature remains minimal. Various concerns continue to stimulate debate on methodological approaches to trust in healthcare, including questions such as "What is trust?", "Can it be measured?" and "How can it be investigated?"

Studies of patients' trust in their healthcare providers and the healthcare system in general have been widely undertaken in developed countries, especially in the United States of America and the United Kingdom (Pearson and Raeke, 2000, Hall *et al.*, 2001,

Calnan and Rowe, 2005). Empirical research on the construct of trust in healthcare remains chronically limited in sub-Saharan Africa. Yet it has been argued that "patient trust may influence health status through continuity of care, adherence to treatment regimes, [and] the willingness to seek care" (Dugan *et al.*, 2005:1472). This study aims to address some of this knowledge gap regarding trust in healthcare for sub-Saharan Africa, while adding to the broader scientific body of knowledge on patients' trust in healthcare, particularly in the context of potentially fatal long-term illnesses such as HIV/AIDS.

In Botswana, the health service factors identified above as being influenced by patient trust (willingness to seek care, adherence to treatment regimes, and continuity of care) remain some of the major challenges to attaining optimal health outcomes through available maternal and child health services (Ministry of Health, 2010). It is for this reason that an empirical study like this one has the potential to act as a needed catalyst to rethinking ways to approach health system strengthening and reform to better serve the most vulnerable populations – women and children. Needless to say, conducting an investigation of health services using the theory of trust is not without its challenges. One of these is the challenge of defining trust itself – the realization that opposing tenets are often regarded as relevant to such a definition. For instance, trust has been viewed as both emotional and logical (Pilgrim *et al.*, 2011), and as both a personality trait and a belief (Rotter, 1980, McKnight and Chervany, 2001)

3.2 Data sources

Data for the quantitative survey were collected from women's individual obstetric booklets, which are compiled as they proceed through antenatal care (ANC) to delivery.

When a woman registers for ANC she is issued with an obstetric booklet that she keeps and brings to every ANC visit during her pregnancy. The booklet is collected at the maternity ward when she is admitted for delivery. Women who present at the maternity ward without an obstetric booklet (because they either left it at home or did not attend ANC, and therefore did not have one) are issued on the spot with a new obstetric booklet of a different colour (buff instead of blue) in which is recorded their demographic information and their delivery summary. It was realized that data generated from patient care are an enormous research resource. These data, once made available by the relevant authorities, are able to provide information about large numbers of patients. That said, the use of patient medical records in research remains in its infancy in developing countries owing to their being paper-based, which means information has not always been adequately captured and records have not necessarily been appropriately stored. It is not surprising that the use of patient medical records in research is flourishing in developed countries, where electronic medical records systems are well established.

The obstetric booklets used in this study become the property of the Government of Botswana when collected at delivery. They contain extensive demographic and general health information, detailed information regarding a woman's pregnancy and a delivery summary, as well as information regarding where the woman is likely to attend postnatal care (PNC) if she attended ANC. Information contained in the booklet includes medical records that are vital for the management of the pregnancy, the delivery and the puerperium. To access booklets the Palapye Primary Hospital (PPH) maternity register was used. This records birth outcomes for all women who delivered at that facility or presented at it within 72 hours of delivering a baby, and provides file

numbers for associated obstetric booklets. Data from the obstetric booklets were supplemented by data from antenatal, postnatal and PMTCT registers for 196 of the sample of 942 women whose booklets were interrogated (see below for sampling procedure) who had received these services as well as their delivery services at PPH. Data on postnatal care were also sought from PNC registers held at the four clinics in Palapye offering PNC outside of PPH. Across these four clinics and the hospital, evidence of PNC having been received was obtained for 285 women. This figure is low compared to the total sample size of 942 primarily because of a high proportion of women not engaging with PNC, a commonly observed phenomenon in Botswana (Letamo and Rakgoasi, 2003, Central Statistics Office, 2009a).

The data sources selected for this study were considered to offer invaluable data on the utilization of health services and therefore a robust examination of how care is provided. The obstetric booklets collected from women at the time of delivery were issued and used at various facilities where they had attended ANC. In addition to data on individual women they provide a broad understanding of the patterns of healthcare delivery across settings, (e.g., from health posts to clinics, primary hospitals, a district hospital and a referral hospital), thereby facilitating scholarly evaluation of the healthcare system. Each booklet records where the first ANC visit occurred, which is also the facility from which the booklet would have been issued. It is appreciated that facility-based service utilization data are not always the best-kept records, especially in developing countries. But the proliferation of donor-funded programs in these countries has brought considerable improvements to health information systems, and continues to improve medical record keeping. PPH, being one of the ARV sites, was one of the hospitals where the Integrated Patient Management System (IPMS) was piloted. This said, a

number of problems were encountered with the obstetric records (as discussed in section 3.3.2.2.6).

Data were also collected through face-to-face in-depth interviews with recently delivered mothers and key informants. The mothers were all recruited at PPH, while key informants included healthcare providers recruited at PPH and two Palapye clinics, as well as Ministry of Health bureaucrats.

3.3 Research design

A mixed methods approach was used to collect data for the study, with both qualitative and quantitative research methods used to provide specific perspectives on the research objectives being studied (see Chapter 1, section 1.4). Like many other research approaches, mixed methods research has attracted divergent assessments. Fundamental questions have been raised, including querying how and why one's research methods should be mixed.

When using a mixed methods approach, researchers note that there needs to be logic-in-use that is able to show the reader how qualitative and quantitative methods were integrated in the study (Kaplan, 1998, Bergman, 2009, Teddlie and Tashakkori, 2009). Given the different possible varieties of mixed method research designs, this study uses what is known as an embedded mixed method design. In such a design "the researcher combines the collection and analysis of both quantitative and qualitative data", with one set of data providing a supportive role in the study (Creswell and Clark, 2011:90). This design is most suited when specific and different research objectives or questions need to be addressed, especially when they require different types of data. The mixed

methods approach adopted in this study is embedded in that, while the quantitative data are prioritized in the first two analytical chapters (Chapters 5 and 6) and the qualitative data take centre stage in the third analytical chapter (Chapter 7), the former two chapters also draw on the literature and selected qualitative data to buttress the discussion and interpretation of the quantitative findings.

3.3.1 Rationale for choice of research method

The mixed method definition adopted here is that attributable to Tashakkori and Creswell (Tashakkori and Creswell, 2007:4), who defined mixed method research as "research in which the investigator collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches … in a single study or program of inquiry". Thus mixed methods research simply accords the researcher an opportunity to "take the best of qualitative and quantitative methods and combine them" (Bergman, 2009:11).

As has been the case for many other scholars who have used mixed methods, the philosophical orientation that underlies their use here is pragmatism – simply using or focusing on what works to inform the research objectives being addressed. Mixed methods were used not only in recognition of the appropriateness of each method to addressing specific research objectives, but also because health and healthcare utilization are each affected and influenced by a complexity of factors. Many of these factors are simply observed, and then lead to the generation of various observational data and questions that need to be answered through research. This means that different questions can be asked for both programmatic and policy purposes. This makes a mixed

methods research approach in health services research more than just popular. It makes it a necessity.

A commonly cited study in the mixed method literature is that of Trent (Trent, 1979 in Teddlie and Tashakkori, 2009) titled 'On the reconciliation of qualitative and quantitative analysis: A case study', in which a federal housing subsidy program was evaluated using qualitative and quantitative research methods. Researchers, including Teddlie and Tashakkori (2009:9), have used his study to demonstrate "the balance in results that can be achieved when differences between the qualitative and quantitative components are properly reconciled". Other researchers have used Trent's program evaluation study to demonstrate the useful aspects of a mixed methods approach when there are discrepancies between qualitative and quantitative research results. Trent's mixed method approach reconciled such discrepancies and showed that the program simply worked in some contexts but not in others, demonstrating the credibility and value of both quantitative and qualitative research when used to complement one another. Combining qualitative and quantitative data, Trent was able to come up with a more accurate picture overall. Otherwise an excessively positive picture (derived from quantitative data) or an overly negative one (derived from qualitative data) would have resulted.

Furthermore, appreciating that all research methods have their problems and limitations, it makes sense to avoid relying on just one method. As other scholars have observed, relying on one method may leave one with a very limited toolbox and consequently a limited understanding of the issues at hand (Bowling and Ebrahim, 2005). Combining qualitative and quantitative research allows the researcher to broaden the dimensions

and scope of work being done. To this end, the two methods were used in this study for complementary and explanatory reasons – to interpret and better understand the complex reality of maternal and child health in the era of HIV/AIDS, and its implications for health services planning and provision.

3.3.2 Study components – Qualitative and Quantitative methods

3.3.2.1 Qualitative methods

Qualitative research was undertaken in this study to inform study objectives three and four (Chapter 1, section 1.4). These were:

- To explore the reasons that women who avoid or delay ANC and who are lost to follow-up within the PMTCT program give for their decision-making, and the roles of trust in relation to those decisions.
- To consider possible interventions (recommendations) that are informed by the understanding gained from this investigation.

3.3.2.1.1 Informant recruitment and sampling

There is no clearcut rule on what constitutes an appropriate sample size for qualitative in-depth interviews. Usually what the researcher seeks to know, and what he/she deems credible, determines the sample size settled for (Patton, 2002). But scholars universally agree that the 'rule of thumb' is that a researcher may stop sampling once the same stories, themes and issues are being told repeatedly by informants (Bowling and Ebrahim, 2005). This is generally known as theoretical saturation. Some researchers have based their minimum sample sizes on their previous research experiences and those of other researchers. Most ethnographers and grounded theory researchers usually conduct between 20 and 50 interviews (Creswell, 1998, Mertens, 2005). Unlike in

quantitative research, sampling in qualitative research does not seek to be 'representative'. Rather the sampling process keeps changing as directed by the needs of the study, including emerging issues or questions (Olsen, 2008).

In the initial phase of the qualitative research process followed to recruit female informants who had interacted with the maternity healthcare system in this study convenience sampling was used, with women approached who had recently delivered and were still in the PPH maternity ward. A screening interview was conducted with all women who were willing to respond to it, and who agreed to participate in the study if selected, as they rested in the maternity ward. Mainly close-ended questions were used for recruiting informants, these questions aimed at gathering information on women's demographics and the timing of their commencement of antenatal care.

The screening interview took place in the maternity ward and was conducted in Setswana. Informants' responses were recorded on screening guide sheets. This information was subsequently reviewed and each potential informant was categorized according to their use of ANC services as being 1) an ANC non-attendee, 2) an ANC late attendee or 3) an on-time ANC attendee. Information for classifying women by HIV status and, if HIV-positive, whether enrolled in the PMTCT program or not could generally not be obtained directly through the screening interview, but was available from the maternity register and obstetric booklets.

No formal sample size was predetermined. Even though sampling in qualitative research does not always seek to achieve representativeness or comparability, certain purposive sampling techniques have been found to allow for these properties in

qualitative sampling. In this instance stratified purposive sampling was used, yielding the desired diversity in identified healthcare utilization patterns of interest. Specifically, the aim in using this technique in the recruitment of informants was to target (and select) women who fitted into three MCH services utilization patterns (ANC on-time attendee, ANC late attendee and ANC non-attendee – see below for definitions), were also diverse in HIV status and, if HIV-positive, were diverse in whether or not they had enrolled in the PMTCT program. The sampling and interviewing followed an iterative process.

After a while, as some categories were easily populated with informants, it became necessary to seek the assistance of attending nurses to ensure that women who fitted other patterns that were not as easy to recruit to were specifically identified and approached to participate in the study. This included women who had not attended ANC and women who were HIV-positive. The different patterns of MCH use that were sought were discussed with maternity ward nurses, as was the desirability of including more HIV-positive women, both in and outside the PMTCT program. Thereafter the nurses were requested to advise if a mother who was in a specific category was admitted to the ward.

Overall, 61 women were recruited through the screening interview as potential informants for in-depth interview (Table 3.1). Twenty-one women were categorized as ANC on-time attendees, 30 as late attendees and 10 as non-attendees. Of these 61 women 36 were ultimately interviewed and became study informants (Table 3.2). These interviewees included 22 of the 24 potential informants who were HIV-positive, but only 14 of the 37 who were HIV-negative. Similarly, 9 of 10 identified ANC non-

attendees were interviewed, as against only 10 of 21 identified ANC on-time attendees. In other words, emphasis was placed on interviewing as many women in the more vulnerable groups as possible. HIV-negative women were by definition not candidates for the PMTCT program.

Table 3.1: All recruited potential informants according to ANC use and HIV status

ANC Use Category	HIV Status		
	HIV-positive	HIV-negative	Total
ANC on-time attendee	8	13	21
ANC late attendee	12	18	30
ANC non-attendee	4	6	10
Total	24	37	61

Table 3.2: Selected in-depth interviewees according to ANC use, HIV status and whether active in the PMTCT program

ANC Use Category	HIV-positive		HIV-negative	Total
	Active in PMTCT Program?			
	Yes	No		
ANC on-time attendee	4	3	3	10
ANC late attendee	7	4	6	17
ANC non-attendee	-	4	5	9
Total	11	11	14	36

A woman was categorized as an on-time ANC attendee if her first ANC visit took place before 16 weeks gestation (within the first trimester). A late attendee was a woman whose first ANC visit occurred later than four months after conception (in the second or third trimester). These cut-off points were considered appropriate in view of the PMTCT program, which requires that an eligible HIV-positive woman should be given

HIV prophylaxis (AZT) at 28 weeks gestation (2009 PMTCT guidelines). But before a woman can be given these drugs, necessary tests and related diagnosis need to be carried out. Given deficiencies in the healthcare system, this can take time. The earlier a woman is tested and diagnosed, the more appropriate will be the care plan for managing her pregnancy and HIV condition. A woman who had waited longer than four months to initiate ANC was in danger of not receiving AZT at the recommended 28 weeks should her HIV status recommend that. Follow-up in-depth interviews were carried out with the 36 study informants. As the sample generation approach was iterative, inclusion of more informants was determined by theme saturation. This meant that some women who had been identified through screening as potential informants were not interviewed, as data gathered through interviews already conducted in the respondent categories defined by Table 3.2 in which they fell were deemed sufficient for research purposes, and no further questions or issues were emerging for that category.

In addition, seven women identified through screening were uncontactable when an attempt was made to arrange an interview (a maximum of two attempts to reach each woman were made on the same day, and two further attempts on subsequent days); five other women changed their minds regarding participation after having initially agreed to be interviewed. Only telephone numbers were collected during screening for later contact purposes because Palapye residences do not have unique addresses. They are grouped by wards rather than having street names and building numbers, and upon making phone contact with an informant it was necessary to obtain a detailed location description based on landmarks to be able to find her. Most newly delivered women spent less than three days in PPH, and due to a cultural belief (discussed in Chapter 4) that, within *botsetsi*, they should in particular remain in seclusion until the umbilical

stump separates, interviews could not take place until approximately two weeks following discharge from the hospital. In that time several women had left Palapye or changed their minds about participating, or had become otherwise uncontactable. Every effort was made to contact all other women (13 in total) who had showed a willingness to participate in the study to thank them and inform them that no further interview was now required with them.

Key informants were also recruited for the study. A variety of healthcare providers involved directly with pregnant women and mothers were targeted and approached to participate. Ultimately 11 healthcare providers and three Ministry of Health bureaucrats, as detailed in Table 3.3, were recruited and interviewed to obtain their perspectives on the issues under scrutiny. The medical doctors, midwives and registered nurses were involved in the delivery of ANC, delivery and PNC services. He lay counselors provided pre- and post-HIV test counseling and infant feeding counseling, and the hospital orderly was a woman who because of ill health had been assigned light duties involving the weighing of mothers and babies, maintenance of ANC and PNC registers and the distribution of supplementary feeds, so had a lot of contact with pregnant and recently delivered women. The bureaucrats were all Ministry of Health employees whose duties covered aspects of maternal and child health.

Three guides were developed, one for screening, one for in-depth interviews with recently delivered women and the other for key informant interviews (Appendices 4-6). The first of these, used for screening recently delivered mothers and recruiting those suitable for in-depth interview, consisted of standard structured questions, but without pre-specified response options. It was designed to capture specific demographic

information as well as information relating to mothers' use of MCH services to aid in applying the qualitative interview inclusion and exclusion criteria listed in Table 3.4.

Table 3.3: Study key informants

Informant designation	Number	Location
Medical Doctor	2	Palapye Primary Hospital
Midwife	1	Palapye Primary Hospital
Midwife	1	Khurumela Clinic
Midwife	1	Lotsane Clinic
Lay counselor	3	Palapye Primary Hospital
Registered nurse	2	Palapye Primary Hospital
Hospital Orderly	1	Palapye Primary Hospital
Bureaucrat	3	Ministry of Health

3.3.2.1.2 Development of the research instruments

In developing the screening guide it was important to limit the number and breadth of the questions included to reflect the restricted amount of time and access that was available for recruitment. Targeted women were resting in an open maternity ward following delivery. Maintaining privacy was very difficult, so the screening questions could neither be too numerous nor too private for women to feel comfortable answering them in such an open environment.

Table 3.4: Qualitative interview inclusion and exclusion criteria

Inclusion	Exclusion
- Recently delivered mothers who fell into each of the following MCH use group categories: ▪ on-time attendees ▪ late attendees ▪ non-attendees - HIV-positive women who were both active and not active in the PMTCT program, and HIV-negative women	- Younger than 18 years old at delivery - Mothers who had had complicated births and were under medication - Mothers who had had stillbirths, or whose newborns had died

The interview guide for the in-depth interviews with recently delivered women was a semi-structured questionnaire. The interview guide was piloted – questions were tested (with five women who were randomly recruited and had delivered at PPH), then refined based on what was learned. The women who were interviewed to test the interview guide were recruited from the MCH unit while they waited to be attended (including mothers who had returned for postnatal checks). The pilot took place over a period of two days – three women were interviewed on day one and the other two were interviewed after the guide was revised. Each woman was approached randomly one at a time, and all the women approached agreed to participate.

The third guide, which was used for interviews with key informants, also consisted of semi-structured questions. The questions were general in order to encourage open dialogue with healthcare providers. Key informant interviews were intended to answer questions and clarify issues raised in the interviews with recently delivered women, with care taken to ensure that informants were not put on the defensive, but rather were given opportunity to provide their insight on issues. The questions were grouped according to themes to which they related, in order to ensure a natural conversational flow of proceedings; e.g., hospital-related questions, provision of care questions and provider-patient issues.

3.3.2.1.3 Data collection process

Data from recently delivered mothers were collected using semi-structured, in-depth, face-to-face recorded interviews, with a view to capturing informants' views about their experiences of health services use in their own words. All interviews were conducted in Setswana. Although they were tape recorded with verbal consent from informants,

interview notes were taken as well. This was done to capture key words and phrases, so as to keep track of topics or themes as they emerged. It was also a back-up for any failure of recording equipment, which fortunately did not occur. All interviews were conducted in informants' homes at times suitable to them, and the informants were widely dispersed geographically across the seven wards of Palapye.

Informants were advised of the aims of the study during the screening interview and given a written brief of the study objectives (Appendix 5) immediately prior to the in-depth interview. Consent was sought afresh before each interview commenced, even though informants had been informed during the screening and recruitment phase that an in-depth interview would follow. Interviews began with a brief set of structured questions seeking socio-demographic characteristics such as age, occupation, education, number of children, ethnicity, marital status and places of residence and birth. Questions to obtain this standard information were also used as a means to build rapport with the women. Subsequent questions aimed to explore their personal experiences when receiving care. The questions in the interview guide explored women's knowledge of ANC (e.g., the benefits of attending ANC, when to begin ANC as well as general knowledge about HIV/AIDS during pregnancy). The questions also explored women's experiences with healthcare providers and the health system in general, their relationships with healthcare providers and other general thoughts, including their understanding of their healthcare needs and other problems they faced with regard to their health. Women were asked and encouraged to talk broadly about their healthcare experiences, describing as many of the encounters they had had as possible. The interview sought to gather what women's experiences meant to them, how they shaped or influenced their behavioural intent towards healthcare utilization.

Scholars participating in the discourse on trust in healthcare suggest that there is a need to contextualize the investigation of trust with a view to ensuring that the researcher appreciates how the word 'trust' is being understood by each member of the population being studied (Pearson and Raeke, 2000, Hall *et al.*, 2002b, Goudge and Gilson, 2005, Pilgrim *et al.*, 2011). This required that a specific question relating to how informants understood trust be asked, following which they were asked to talk about their trust in the health system and in their healthcare providers. These questions were left until towards the end of the interview. Women were asked to define the word trust, what the word meant to them. As trust is a difficult word to define, women were also asked to elaborate on their answers by explaining what they meant when they said they trusted or did not trust healthcare providers. They were also asked to describe the elements they looked for that allowed them to trust or not trust healthcare providers.

A token of appreciation was offered to informants, mothers being able to choose between a fruit basket and two tins of infant milk. Money was not given, as this has been discouraged by the Ministry of Health Research Unit owing to the growing need for health research across the country. It does not wish to encourage the offering, and therefore the expectation, of cash inducements for participation in such research.

As previously intimated, supplementary key informant interviews were also conducted with 11 healthcare providers and three Ministry of Health bureaucrats. All of these providers were involved in ANC, PMTCT, PNC and maternity service provision. The interviews were conducted mainly to gather data on the opinions of healthcare professionals as they related to the various issues raised by women regarding maternal and child healthcare provision. They were conducted following the completion of the

interviews with recently delivered women, and all took place in informants' offices.

3.3.2.1.4 Processing the qualitative data

Each audio taped interview was listened to and transcribed verbatim in Setswana, then translated into English with the assistance of a colleague. The qualitative data analysis followed a descriptive phenomenological approach. Phenomenology as a research approach (that derives from the German philosopher Edmund Husserl, 1859-1938) is the study of phenomena, and their central underlying meanings. It is concerned with "understanding how the everyday, intersubjective world (life world) is constituted" (Schwandt, 2000:192). Thus phenomenology is an appropriate way of studying people's lived experiences, and how they interpret and form meanings from their experiences. It emphasizes the subjective views of those interviewed, and how they interpret and understand their worlds in ways that make sense to them (Brocki and Wearden, 2006).

A phenomenological approach to data analysis was chosen because, as Lester (Lester, 1999:1) states, it is "particularly effective at bringing to the fore the experiences and perceptions of individuals from their own perspectives". Lester continues:

> Epistemologically, phenomenological approaches are based in a paradigm of personal knowledge and subjectivity, and emphasise the importance of personal perspective and interpretation. As such they are powerful for understanding subjective experience, gaining insights into people's motivations and actions, and cutting through the clutter of taken-for-granted assumptions and conventional wisdom.

Engaging with the data during the research process borrowed largely from the practice advocated by grounded theory. Grounded theory purports that preliminary data analysis should begin as early as during the data collection process itself. Preliminary data analysis in the present study included reviewing field notes emanating from interview

contexts, listening to the audio taped interviews after interview sessions, and noting any general meaning from interviews discerned while doing this. This early interaction with the data was useful in that it helped identify emerging concepts and issues of interest and relevance that could be explored further in the remaining interviews (Olsen, 2008). For example, being able to identify connotations of trust in women's narratives of their healthcare experiences, and asking specific questions related to trust. The data analysis was approached conscious of pre-existing theory (trust in healthcare providers and the healthcare system), which provided foci for the study, but also with a view to ensuring that it did not constrain any description or new theory from emerging (Ezzy, 2002). This early listening to each recorded interview provided ample context of women's narratives, which was further strengthened by later reading through the transcribed interviews as well.

Analysis of the data entailed listening to the taped interviews and reading (several times) through the transcribed interviews to understand the meaning of every word, phrase, sentence and paragraph as narrated by the women. No interpretation was imposed on women's descriptions or narratives, and in condensing what they said, words, phrases and sentences from their descriptions were used in a bid to remain as true as possible to their literal words when forming themes or units of meaning from the narratives. These were then grouped into categories to form conceptual themes or labels (Tesch, 1991). Thus the analysis involved a descriptive exploration of the data; coding and labeling of the data; and development of themes with a view to constructing the study narratives.

To assist this process various codes, which were developed directly from what informants said (in order to keep the analysis rooted in an informant's narrative), were created and loaded into Atlas.ti to assist in carrying out thematic analysis of the data, thereby improving the thoroughness of the analysis (Tesch, 1991, Olsen, 2008). The experiences, views, values and beliefs narrated by informants were explored in their social, cultural and environmental/structural contexts, so as to bring out the subjective norms as well as the personal attitudes that may have influenced a woman's ultimate intention or decision.

3.3.2.1.5 Limitations

Qualitative interviews provide an in-depth insight into the social phenomena being investigated and do not assume representativeness. The sample may not be selected randomly and the sample size is often small. This leads to limitations in generalizing the results – one of the longstanding criticisms of qualitative research. Other limitations encountered while conducting interviews included informant frustration, fear and confusion. For example, one informant, Dinah (a 33 year-old HIV-positive mother of four) was very frustrated, and seemed very confused regarding her own HIV status, that of her infants (a set of identical twin girls) and whether she should use formula feeding or breastfeeding. She recalled that while she was still pregnant she had been encouraged by the nurses to use formula feeding, and indeed felt she did not want to breastfeed her children for fear of putting them at risk of contracting the AIDS virus. However, HIV-positive mothers then began to be encouraged by healthcare providers to breastfeed – but this message she realized was selective. While every effort was made to control the interview and stay on course, it was clear that some of this woman's frustrations needed to be addressed to some extent before the interview could proceed. Dealing with such

situations often involved taking a few minutes to give the informant details of healthcare providers with whom she could address her concerns, thereby delaying the interview process.

3.3.2.1.6 Reliability and validity

Reliability and validity (rigor) were achieved by successfully tape recording all interviews without any operational difficulties – proper audibility and voice fidelity were achieved – thereby ensuring complete records of all interviews were available for analysis. This helped to eliminate researcher bias, with no information from the informant's narrative lost or distorted, thereby ensuring neutrality in the information gathered as "accurate descriptions of an individual's experiences" were recorded as narrated by her (Appleton, 1995:995). This is in contrast to note taking, where the researcher may lose and even distort some information spoken by the informant. It has also been suggested that tape recorded interviews can demonstrate the effect of the interviewer on the data in that they "expose the extent to which the interview data is influenced by the tactics and verbal activity of the interviewer" (Bucher *et al.*, 1956:360). Pilot interviews and the interview guide used helped to sharpen the researcher's interview skills and consistency in collecting the data to help improve reliability.

3.3.2.2 Quantitative methods

A quantitative research approach was used in the study to address the following two questions:

- From obstetric medical records, to determine the proportions of pregnant women and mothers who opt not to attend or delay attending antenatal care

(ANC) and who attend postnatal care (PNC), and to characterize the groups that (a) attend ANC on-time, delay attending and do not attend and (b) attend PNC.

- To determine the proportion of HIV-positive pregnant women who are enrolled in the Prevention of Mother-to-child Transmission (PMTCT) program, and of them the proportion lost-to-follow-up during ANC and to characterize those who follow through with the program and those who do not.

A retrospective descriptive analysis of routinely collected maternal and child health data formed the quantitative component of the study, covering births over a five-year period from April 1st, 2005 to March 31st, 2010. Data were extracted primarily from individual women's obstetric booklets, which they normally receive when commencing ANC for a pregnancy and submit to PPH at the time of delivery, and from other sources (e.g. ANC, PNC and PMTCT registers). A predesigned tool (see Appendix 6) for data extraction was used to systematically collect data from these sources. The women whose obstetric booklets were consulted were selected from the PPH maternity register, in which is recorded every birth outcome for women presenting at that hospital.

3.3.2.2.1 Sampling

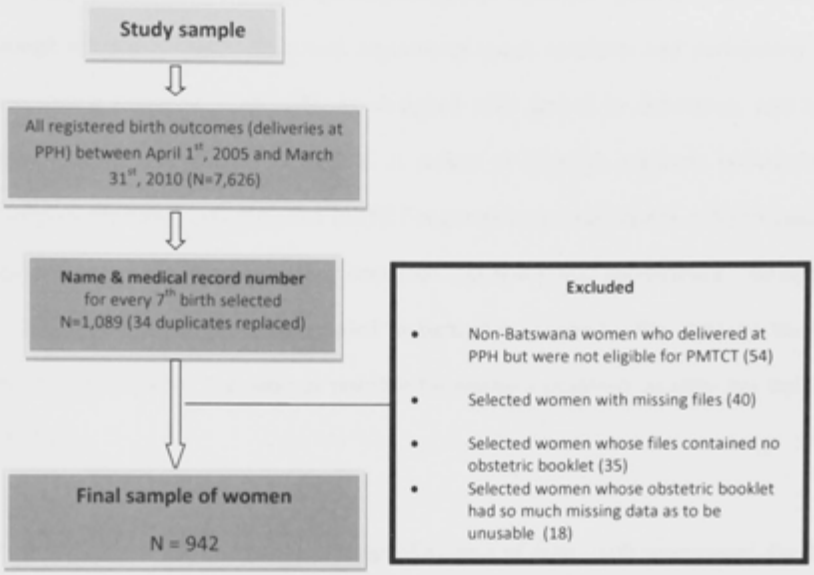
Personal and administrative information was extracted from the PPH maternity register and used to compile a sampling frame for selection of women's obstetric records. Each delivery at PPH or admission within 72 hours of giving birth elsewhere sees the mother's name and medical record number recorded in the maternity register, and a sampling frame was created by transferring to an excel spreadsheet these details for

7,626 maternity outcomes recorded during the five-year reference period April 1st, 2005 to March 31st, 2010.

A patient's medical record number was said (by medical records officers and attending nurses) to be a unique file number identifying the file in which the obstetric booklet for the birth in question and also any other obstetric booklet(s) pertaining to earlier or later maternity events at PPH for the same woman would be located at the medical records office. However, careful inspection of the sampling frame indicated that this concept of a unique medical record number for each woman had not always been followed in practice. Instances were found where the same number had been assigned to more than one woman, and also where different births to the same woman had been assigned different file numbers. Thus, one could not be certain that obstetric booklets for all births to a woman at PPH were in the one file, as the concept of a unique file number for each woman would indicate they should be. There is clearly scope to improve the admission procedure to eliminate departures from the goal of women having single unique medical record numbers.

The time and resources available to carry out the medical records review were the basis upon which an appropriate sample size was determined, and a sample of approximately one thousand records was targeted. Systematic sampling was then used to select outcomes from the sampling frame (Figure 3.1). A starting point was determined by randomly selecting a number between one and seven, and then every seventh outcome was selected to generate the initial study sample. A total of 1,089 women's medical record numbers were selected.

Figure 3.1: Sampling procedure



Inspection of the initial sample of 1,089 mothers and associated medical record numbers showed that 34 were duplicates – that is, second or third outcomes during the reference period for the same women. Specifically, there were 32 cases where a woman's name and medical record number occurred twice and one case where they occurred three times. There were also three cases where the first and second names of women were identical (sometimes with slightly different spellings), but medical record numbers differed. It was established that these were all different women – their dates and places of birth and places of residence were compared and found to be different. The 34 duplicate occurrences were each replaced by the next non-duplicate occurrence in the sampling frame to yield, in effect, a 1 in 7 systematic sample of mothers who had been admitted to the maternity ward of PPH during the five-year reference period.

3.3.2.2.2 Development of the data extraction form

The data extraction form, like the screening and interview guides, was developed through extensive consultation with supervisory panel members and particularly the Supervisory Chair. It could only be designed after arrival in Botswana, and took approximately four months to finalize. A review of women's obstetric booklets and maternity, antenatal, postnatal and PMTCT registers was conducted in order to gain an appreciation of the information they contained and how it was documented. The design or flow of the extraction form needed in particular to parallel the obstetric booklet format so as to make it as easy as possible for research assistants to carry out the data extraction.

Upon completion following the exchange of a series of drafts with supervisors, the data extraction form was tested over a period of two weeks both to identify any problems that could arise with it and to ensure that research assistants became familiar with it. Problems identified were communicated to the Supervisory Chair and amendments were made in consultation with him.

3.3.2.2.3 Data collection and data entry

After finalizing the sample list of women's medical record numbers it was given to the male research assistant, who worked closely with PPH's medical records officers to locate selected files. Files were removed from storage in batches of 35, a further batch of 35 only being removed once data extraction from the previous batch had been completed and the files had been returned to the medical records office. The research assistant was required to sign out each file taken from the medical records office, and sign it back in again upon its return.

For data extraction the two research assistants used the standardized form developed for that purpose, with the researcher then inputting data from the forms into a Microsoft Access database. Both extraction and input took place in a room at the hospital's MCH unit allocated for the study. The researcher and research assistants sitting together during the extraction and input process enhanced clarity and facilitated timely troubleshooting in any instances that were unusual. Data were extracted from all obstetric booklets found in a woman's file that pertained to a birth outcome that occurred within the study's five year reference period. However, a woman may have delivered other children during the reference period at other facilities around the country, in which case obstetric booklets for those birth outcomes would not be found in her file at PPH. Because of this, and the previously reported possibility that in a few cases obstetric booklets for other births at PPH during the reference period may have been filed under different medical record numbers, the data analysis is only focused on birth outcomes that resulted in women's selection from the maternity register for inclusion in the sample (i.e., one birth per woman – the reference birth).

As shown in Figure 3.1, data were not extracted for all 1,089 women in the initial sample. Some women, a total of 147, were excluded because (i) they were non-Batswana women and therefore were not eligible for PMTCT (54 cases), (ii) their medical record files were missing (40 cases), (iii) their files contained no obstetric booklet for the reference birth (35 cases), or (iv) their obstetric booklets had so much missing data as to be unusable (18 cases). Thus, the final sample was reduced from 1,089 to 942. The non-Batswana women were primarily from Zimbabwe, the majority being illegal immigrants who usually had not attended ANC.

There may be many reasons for sections of the obstetric booklet not being filled out, including missed ANC visits, ANC non-attendance, PMTCT defaults and loss-to-follow-up (LTFU). Also, for those women who could not bring their obstetric booklets to the hospital, either because they forgot, did not attend ANC or left them behind for any other reason upon the onset of labour, a new booklet (buff-coloured rather than the normal blue) was used to record medical notes regarding their delivery upon admission to maternity. Some of the information in these booklets could only be filled out in retrospect based on what women could tell healthcare providers at delivery. Whether thorough attempts were made to solicit this information from women is unknown. This circumstance (failing to bring the blue obstetric booklet to delivery) contributed significantly to situations where the file contained no obstetric booklet or the obstetric booklet had numerous items of missing data. Another factor that contributed to files with no obstetric booklet was patient referrals to other medical facilities (district or referral hospitals) immediately following delivery. In such circumstances the relevant obstetric booklet accompanied the patient and was unlikely to have been returned to PPH.

The systematic data extracted from women's obstetric booklets enabled usage indicators for selected maternal and child health services to be compiled, particularly information relating to ANC timing, PMTCT participation and PNC plans. To obtain information on use of postnatal care, the research team visited all four local clinics in the PPH catchment area. Using the sample list of women selected from the PPH maternity register and the postnatal registers, a comparison was made to identify women who had come to any one of these clinics for PNC. For this matching, women's names, dates of birth, places of birth, places of delivery and dates of delivery were used. Women whose

information matched the information derived from the obstetric booklets and the hospital maternity register were selected and their postnatal care data were added to the access database. As previously discussed, 285 women's information pertaining to PNC in Palapye was extracted from registers at PPH and the four local clinics.

3.3.2.2.4 Data processing

The Statistical Package for the Social Sciences (SPSS) was used for analysis of the data collected from the obstetric records. These data were exported from the initial Access database into SPSS. The data analysis process employed for the study began with data display, which aimed to present the data as an organized assembly of information to ensure effective analysis (Berg and Lune, 2012). Descriptive statistics providing distributions and statistical associations were generated using SPSS to inform the study objectives where these helped to "highlight the important numerical features of the data" collected (Rachad, 2003:34). The analysis of the data focused on providing information of the following types:

1. Frequency distributions: Frequencies of selected variables for the study sample were generated to determine the proportions of women in identified maternal and child health services utilization categories. Frequency tables and charts were used to provide information on the distributions of various characteristics of interest about the study sample.
2. Measures of central tendency: Because the study sought to characterize women found in different health service utilization categories, measures of central tendency such as means have been used to draw comparisons among the women (e.g., women's average gestation period at ANC first visit).

3. Associations and relationships between variables of interest: Bivariate and multivariate analysis techniques were used to explore the associations and relationships between the outcome variables (e.g., ANC and PNC attendance or non-attendance) and the exposure variables (e.g., women's socio-demographic characteristics). The statistical methods used included chi-square tests, analysis of variance and binary logistic regression.

Thus the methods used to analyse the quantitative data began with simple and direct presentation of the data followed by a more analytical review or interpretation in order to highlight specific attributes and features of those data. This was enriched further with inferential statistics in order to make generalizations where appropriate, for example exploring the effect of one variable upon another.

3.3.2.2.5 Reliability and validity

Reliability and validity of the quantitative data were mainly achieved through standardized approaches to data collection. For instance, in designing the medical records data extraction form, care was taken to ensure that each variable had comprehensive and unambiguous response options. Also, the two-step process that was followed in extracting the data (a pen and paper system followed by use of computer software) helped improve data reliability and validity. Data were initially transferred from women's obstetric booklets (by research assistants) to the data extraction form, then from there were transferred to a computer file (by the researcher), and this allowed for cross-checking for obvious errors in the research assistants' work. In addition, the data extraction form was pre-tested to improve its reliability, and efforts were made to ensure that minimal judgment and interpretation of information by research assistants

was required when selecting response options and filling it out. The use of free text was minimal, and numeric and categorical response options were mostly used.

3.3.2.2.6 Limitations

That medical records review research uses data originally collected for other purposes is always an inherent weakness of the approach. Some of the limitations encountered when extracting data from obstetric records included incomplete documentation, such as missing obstetric booklets and missing information within booklets, interpretation difficulties because acronyms or abbreviations had been used, problematic verification of information (in seeking clarification of records from healthcare providers different explanations sometimes were given) and variation in the quality of information recorded and the way different health professionals had recorded it. Incomplete data raise measurement concerns, services provided potentially either over or underestimated.

Another limitation encountered relates to the 147 cases excluded from the study, especially those excluded because (a) the file was missing, (b) the obstetric booklet was missing from the file or (c) significant information was missing from the obstetric booklet. This potentially biased the study sample because it could well be that women in these categories were likely to have engaged negatively with their healthcare providers and the healthcare system during their pregnancies. They could, for example, have included disproportionate numbers who had been lost to follow-up from the PMTCT program.

Further problems identified with routine data included changes in reporting practices over time, differences in practices across health facilities, and variation in practices

amongst healthcare professionals. There were instances where it was clear that what was required when filling out a certain section of the obstetric booklet had not been similarly interpreted by all healthcare professionals (see Figure 3.2). In most instances very little information was recorded regarding the services women received when attending ANC. This was especially common under the PMTCT section – as Figure 3.2 illustrates, a table that aimed to summarize the woman's HIV status and other related information had commonly been interpreted or filled out differently.

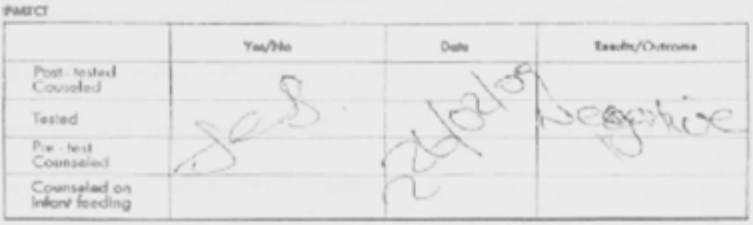
The images in Figure 3.2 are snapshots from page 5 of three women's obstetric booklets showing a PMTCT section that seeks to capture any risks related to the woman's pregnancy. It is first worth noting that the table itself is poorly designed; besides featuring spelling errors it does not follow a logical sequence. It asks about the pre-test situation after dealing with the post-test situation.

In these three images one healthcare provider provided some pertinent information in relation to the PMTCT program required under this section, particularly a note to the client regarding the need for a review at a later date (the middle image), while the first and last images provide very little information. However, the information recorded still presents some confusion and may have been recorded better with a standardized understanding of what needs to be recorded in this section.

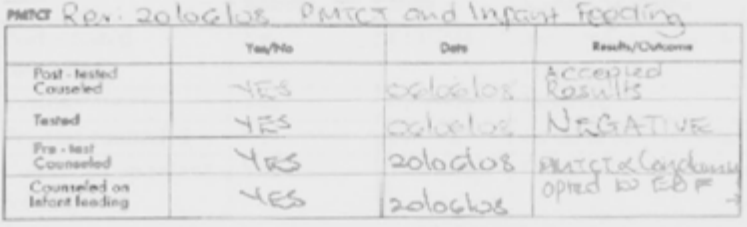
The 'window' period, on the other hand, is "the time from initial infection with HIV until HIV antibodies are measurable by an antibody test" (Ministry of Health, 2011b:10) – within this period a woman's HIV test may not be able to detect the virus. This requires that women be provided with the necessary counseling and encouragement to

undergo a second HIV test if their first test is negative. The middle image in Figure 3.2 indicates that the healthcare provider went further to note in the patient's booklet the need for a repeat test at a later date.

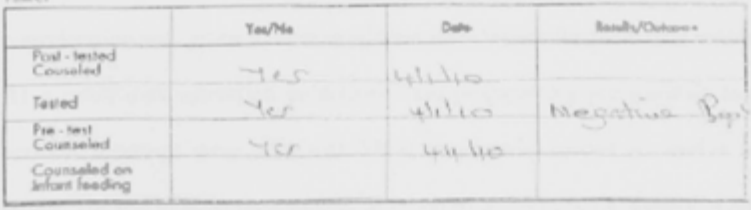
Figure 3.2: Three images showing data as entered by different healthcare providers in women's obstetric booklets under the PMTCT section


PMTCT

	Yes/No	Date	Results/Outcome
Post - tested Counseled			
Tested			
Pre - test Counseled			
Counseled on Infant feeding			


PMTCT Rev. 20/06/08 PMTCT and Infant feeding

	Yes/No	Date	Results/Outcome
Post - tested Counseled	YES	20/06/08	ACCEPTED Results
Tested	YES	20/06/08	NEGATIVE
Pre - test Counseled	YES	20/06/08	PMTCT & Condoms
Counseled on Infant feeding	YES	20/06/08	opted to EBF


PMTCT

	Yes/No	Date	Results/Outcome
Post - tested Counseled	Yes	4/6/10	
Tested	Yes	4/6/10	Negative Pos
Pre - test Counseled	Yes	4/6/10	
Counseled on Infant feeding			

Source: Women's antenatal obstetric booklets held at Palapye Primary Hospital, 2010

While the information recorded in the other images is not necessarily wrong, the point is that healthcare providers who are expected to fill in this information are given training on how to do it. Discrepancies observed in clinical notes may be due to a number of factors that need to be investigated, including the frequency and adequacy of training as new staff join or are rotated through the facility. But they also raise questions about the healthcare that was provided, as observed by Kebalepile (2001:iii), who in her study of midwives in northern Botswana concluded that "many nurses have good knowledge and practice, and provide quality care … but not all". Figure 3.3 shows an example of an appropriately filled out PMTCT table.

Figure 3.3: An example of expected medical information relating to a woman's HIV status and related issues under the PMTCT section of an obstetric booklet

	Yes/No	Date	Results/Outcome
Post – tested counseled	Yes	01/03/08	Accepted results, to re-test on 15/07/08
Tested	Yes	01/03/08	Negative
Pre-test counseled	Yes	01/03/08	Opted to test/consented
Counseled on infant feeding	Yes	15/07/08	Opted for exclusive breastfeeding

Table constructed based on discussions with PMTCT District Coordinator

Efforts were made to address some of these limitations, including by pretesting the data extraction form. This allowed for early identification of problems, thereby ensuring that consideration was given to how to address them before the main data extraction began. As a result data extraction guidelines were prepared for the research assistants, and periodic meetings were held with MCH nurses who helped to resolve some of the issues. The use of other data sources also helped to improve the quality of data collected from the obstetric booklets. For example, some information that was not clear in

obstetric booklets was cross-checked with the ANC, PMTCT and maternity registers at PPH if a woman's record was available in these (some women had not attended ANC/PMTCT at PPH). Women who had delivered at PPH included women who had received MCH services at PPH and its four local clinics, but also women who had attended various other MCH facilities across the country. For women who had attended ANC elsewhere than at PPH there was no supplementary information to help clarify any confusing information in their obstetric booklets (women's booklets were issued at whatever facilities they had commenced ANC at).

3.4 Ethics and ethics approval

While research involving humans always raises ethical issues, this becomes even more critical when such a stigmatized disease as HIV/AIDS is concerned. The ethical issues mainly revolve around such considerations as informed consent, privacy and confidentiality as well as protection/guarding against stigma and discrimination. Bearing this in mind, all possible measures were taken to safeguard informants against any detrimental effects that might be caused by unethical practices followed in the course of this study. A lockable office to use for obstetric booklets review which also had lockable cabinets was requested and provided. In addition, during data extraction patients' identifiable information (including their names) was only used during the sampling process – data transferred to the study database used patients' medical record numbers only as identifiers, thereby protecting patients' identities. Furthermore, the database was stored in a password protected personal laptop that would go into sleep mode if left unattended/inactive for more than five minutes.

Because the initial recruitment of mothers for interview took place in an open maternity ward, the screening interview guide did not include specific questions relating to issues of HIV/AIDS. These were only asked at the second interview in the privacy of the informants' homes. Informed consent to participate in the study was sought before the women were interviewed. Consent sought was verbal, not written, even though all these women could read and write. Verbal consent was sought because the information informants were requested to discuss with the interviewer included sensitive personal [including health] information that was very uncomfortable for many women to discuss easily, especially with someone they did not know. People in Botswana are generally hesitant/suspicious about giving non-verbal consent; i.e., about appending their signature to a piece of paper. In order to encourage informants to talk openly about their life and healthcare experiences verbal consent was considered to be the more effective option. Furthermore, when presenting women's narratives, pseudonyms were used to preserve informant confidentiality.

Before fieldwork commenced, ethics approval was sought from the Australian National University and the Botswana Ministry of Health Research Unit. Approval from the Australian National University was sought and obtained before leaving Australia. However, it was not until after arrival in Botswana that an application to conduct the research was submitted to the Ministry of Health there, although other general communication with the relevant office took place prior to arrival. An application to the Ministry of Health was deliberately delayed to allow familiarization after arrival in Botswana with the sources of information to which access would be desirable, and that would need to be specified clearly in the application. This way one was able to assess

the condition of medical records that would be useful and to specify clearly what data would be extracted from them.

A letter of introduction from the Australian National University's National Centre for Epidemiology and Population Health had already been submitted to the management of Palapye Primary Hospital. Management duly advised in response that they would have to wait for permission from the Ministry of Health before the research could commence, but allowed preliminary perusal of the documents of interest while permission was pending. While awaiting the response from the Ministry of Health, other arrangements for data collection, including requesting and organizing work space, establishing suitable times to recruit in-depth interviewees, and appointing and training research assistants were proceeded with to avoid any further delays once approval was received. Submitting a thorough and very detailed application to the Ministry of Health Research Development Unit minimized the need for further clarification or additional information that could have delayed the approval. The application was submitted on 6th April, 2010 and permission to proceed was granted on 18th May, 2010 (see Appendix 1).

3.5 Research assistant recruitment and training

After talking to a number of healthcare providers, including a former colleague (working with the Botswana-UPenn Partnership doing research in pediatric medicine) and nurses at the MCH clinic at PPH, three potential research assistants were identified and interviewed. This resulted in two being appointed, one man and one woman. The minimum requirements were completion of at least Cambridge O levels and fluency in Setswana language, while previous research assistant work experience would be an advantage. The female research assistant had tertiary training to diploma level and had

worked as a research assistant before, while the man had certificate training as a medical records officer.

Training for data extraction from women's obstetric records was conducted at PPH for a period of two weeks before the actual data extraction began. For two weeks following the training a number of obstetric booklets were selected and used to pretest the data extraction form, as well as to acclimatize the research assistants with it and with reading information written in the booklets by doctors and nurses. This ensured that research assistants became familiar with the obstetric records and with information they could expect to find in them before serious data extraction commenced. Also covered in the training was guidance on the management of missing and conflicting data. Specific objectives for the analysis of the information collected from the obstetric booklets were not communicated, to avoid research assistant subjectivity or bias when extracting data – a standard methodological approach used in medical records review studies known as abstractor blinding to hypothesis.

An undertaking to observe ethical principles (as set out in section 3.4) formed a key element of the contracts of research assistants on this study. Research assistants were also required (i) to sign for every patient booklet that they took from the records office to the research office, (ii) to lock away the booklets and data sheets in a lockable cabinet in the research office before leaving it, and (iii) to advise the nurse in charge and advise her to lock the research office when they left on their breaks.

One research assistant (the woman) was also trained in conducting screening interviews to recruit in-depth interviewees using a structured screening guide. This training was

mainly meant to ensure she understood the information to be collected and had some basic skills in conducting interviews, including how to obtain verbal consent and to explain the purpose of the interview and how the data collected would be used. It was also important to teach her how to maintain a uniform approach in her recruitment (the interview process) in order to ensure minimal variation in responses and to avoid wasting time trying to explain things in several different ways. The assistant was also trained to appreciate that some potential respondents might be suspicious of researchers, and therefore unwilling to be interviewed. Teaching her how to introduce herself and the project she was trying to recruit women to in a way likely to elicit cooperation was crucial, and it was also important to ensure that she was able to recognize appropriate moments at which to approach women – for instance, to avoid times when they were being attended to by healthcare providers or had visitors.

3.6 Conclusion

It is common to find in the health service utilization and health behaviour literature on developing countries that Demographic and Health Surveys (DHSs) have been used as data sources instead of patient medical records. DHS data, however, would fall short in addressing some of the issues the present study seeks to address, especially such issues as socio-cultural factors that affect health service utilization and health behaviour. Data from a DHS do not allow for exploration of the roles of other health service-related factors, such as the availability of services, their cost (both direct and indirect), their quality and acceptability, and patient-provider relational issues in healthcare provision. The data sources selected for this study were considered to offer invaluable information on the utilization of health services and a more robust examination of how care is

provided. The obstetric booklets collected from women at the time of delivery were issued and used at various facilities where they attended ANC.

CHAPTER 4

INTRODUCING THE STUDY SETTING AND THE STUDY POPULATION

4.1 Introduction

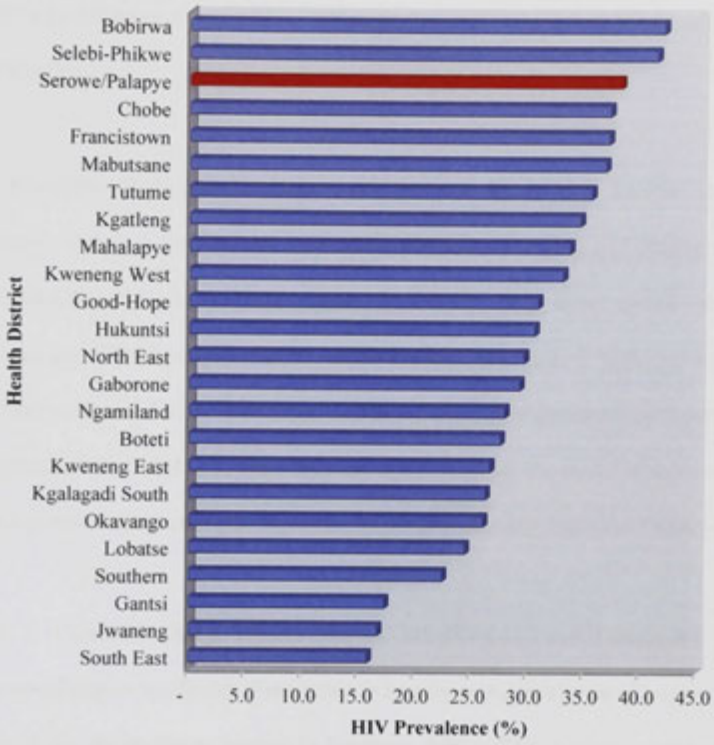
This chapter sets the stage for presenting the results of the research in Chapters 5-7. The area where the women and mothers who inform the study live and receive their health care is discussed. This provides an understanding of the social settings in which pregnant women and mothers make daily health decisions for themselves and their children. A brief discussion of Botswana with special reference to trust in the various institutions intended to serve its citizens is also presented. Finally, the socio-demographic characteristics of the study informants who consented to in-depth face-to-face interviews and the characteristics of the study sample derived from the review of obstetric records are discussed.

4.2 Overview of Serowe/Palapye Health District

This study was conducted in a village called Palapye which has a population of well over 30,000 people. Despite its population it is still officially classified as a 'village' and is part of the Serowe/Palapye Health District in the Central District of Botswana, one of 10 administrative districts across the country. Serowe/Palapye Health District, with a 2011 population of 180,489 (Central Statistics Office, 2012a), has been hard hit by the HIV/AIDS epidemic (Figure 4.1).

In 2011 the crude HIV prevalence among pregnant women aged 15-49 years in Serowe/Palapye was estimated at 35.2 percent; this estimate adjusts to 38.1 percent when standardized to the national age composition for 15-49 year-old pregnant women (Ministry of Health, 2011a). The adjusted prevalence of 38.1 percent for Serowe/

Figure 4.1: Age-adjusted HIV prevalence levels among pregnant women aged 15-49 by Botswana health districts in 2011



Source: (Ministry of Health, 2011a)

Palapye compares to a national estimate of 30.4 percent among pregnant women aged 15-49 years (Ministry of Health, 2011a), ranking Serowe/Palapye third among the 24 Health Districts in Botswana (Figure 4.1). It is possible that the geographic location of Palapye has contributed to the high HIV rate in Serowe/Palapye. Palapye is a stopover for truckers travelling between other parts of Botswana and neighbouring countries (Tsheko *et al.*, 2007). Because of this there is a large presence of commercial sex workers, and Palapye is known to have the highest number of 'guesthouses' in the

country after the two main cities, Gaborone and Francistown. A large presence of migrant workers as well as informal traders has also been associated with the high local HIV rate (Tsheko *et al.*, 2007). Overall, Serowe/Palapye has been badly affected by HIV/AIDS.

A prevailing challenge for Botswana's government is high income inequality and poverty, which is largely concentrated in the country's rural and remote villages. The HIV/AIDS epidemic in this region is exacerbating these social and economic challenges. The Serowe/Palapye Health District has quite a high poverty rate, most recently estimated as 21.1 percent, compared to a national rate of 20.7 percent (Central Statistics Office, 2011). Unemployment is also high in this health district – estimated at 26.2 percent compared to 17.8 percent nationally (Central Statistics Office, 2011).

4.3 Serowe/Palapye Health District: ethnicity and social harmony

Serowe/Palapye is a health district that is largely populated by the *Tswana* ethnic group, one of the Bantu ethnic groups in Southern Africa. The *Tswana* constitute the largest component of the country's national ethnic mix, leading to people in present-day Botswana being commonly known as *Batswana*.

Ethnic distinctions in Botswana, as in many other nations of sub-Saharan Africa, were created through "two initially separate but ultimately converging processes" (Wilmsem, 2002:826). The first was through social relations with ancient roots, and the second was through political realignment, when ethnic groups needed to form alliances to fight common enemies. The overall *Tswana* identity in Botswana has been attributed to a considerable homogeneity of traditional and cultural practices shared among the ethnic

Tswana and the various other non-*Tswana* ethnic groups found in the country today (Parson, 1999). Parson argues that the overarching national *Tswana* identity of present-day Botswana has contributed positively towards creating a steady and slow process of democratization, by protecting the country from the revolutionary processes that were common in other African nations in colonial times.

Historical accounts of the 'origins' of Botswana's population – the Batswana – vary considerably. This reflects the fact that the main sources of information about early human life, archeology and oral history, are often in conflict. According to some historians and archeologists, pre-colonial Botswana was populated by several ethnic groups scattered throughout the country, some of whom were non-*Tswana*-speaking such as the *Bakalanga* of *Shona* descent found in present-day Zimbabwe, the *Bayeyi* who migrated from present-day Zambia and the *Hambukushu* and *Baherero* from present-day Namibia and Angola, as well as the *Basarwa* (considered the first people of southern Africa) and many other small ethnic groups (Hitchcock and Smith, 1982, Parson, 1999, Swanepoel *et al.*, 2007). Yet today the population of Botswana is "generally considered homogeneous [especially] compared to East and West Africa" (Central Statistics Office, 2009a:9) Although the dominant ethnic identity in Botswana today is *Tswana*, the actual proportions made up by the various ethnic groups are not reported in official statistics. However, it is thought that probably less than half the country's population are ethnic *Tswana* by origin. It is also believed that the greater proportions of ethnic *Tswana* are citizens of South Africa.

The history of the *Tswana* is not the focus of this study but it is worth making a point regarding the national identity that holds together the different ethnic groups found in

Botswana today. All across Africa, embracing and celebrating one's ethnicity remains politically sensitive – often leading to civil unrest both within societies and across countries. This is perhaps why many regard the widely embraced *Tswana* identity in Botswana as the glue that has held the different ethnic groups together and always aligned them as one in trusting the government of the day. According to Parson (Parson, 1999:4), "the national culture which is largely based on *Tswana* language represents a distinct Botswana nationality". Since independence, different ethnic groups in Botswana have shared a *Tswana* identity and co-existed harmoniously as equals without any apparent discrimination or disintegration, with inter-marriages common across all groups. Although each ethnic group in Botswana has a distinct culture, there are far more similarities than dissimilarities, with overlaps in arts, myths, ceremonies, dance and superstitions almost making the cultures homogeneous. Institutionalized discrimination (e.g., workplace discrimination) along ethnic lines is almost non-existent, although pockets of nepotism have been reported in the media. By and large, adoption of a broad *Tswana* identity has prevented conflict related to ethnic differences in Botswana.

Mulinge (2008) posits that one of the factors that has contributed to the lack of ethnic conflict in Botswana is the general lack of friction between minority and majority ethnic groups over land or other resources. Bechuanaland (Botswana's name before independence) was initially thought to be without resources, and so escaped the common 'divide and conquer' strategy of the colonial masters. Britain did not have much economic interest in Botswana, so made very little economic investment in the country. As a result the country had no lingering conflict over post-independence allocation of resources. When Botswana gained independence there were no ethnic

groups that felt their regions were less developed than others – something that was common in other African states such as Rwanda and Kenya. However, while Botswana may be dubbed 'Africa's haven of ethnic peace and harmony', there must remain an appreciation that "potential for ethnic animosities ... in Botswana remains real" (Mulinge, 2008:63).

In post-colonial Botswana, personal participation in nation-building helped to defuse divisions among people who could otherwise be separated by language or ethnicity. This focus on a common citizenship built social capital and therefore unity among the country's population. This social capital allowed the development of the first and only institute of higher learning, the University of Botswana. The University arose because different ethnic groups worked together towards a common national goal. A self-help campaign – *motho-le-motho kgomo* (a cow per person) – helped to generate the initial resources needed to establish the University in 1982.

It is reasonable to conclude that promotion of a common *Tswana* identity in Botswana, rather than conflict-prone ethnic allegiances, has made Botswana a normatively trusting nation. *Batswana* have always engaged in social organization that involves norms, values and virtues of trust that bond the community together. Such practices as *motshelo* (a community revolving credit scheme) and burial societies (community-initiated funds to which members contribute money to be used for other members' funeral expenses in the expectation that their own will also be covered when the time comes) are both examples of social capital that have invoked the concept of trust. Both are based on the willingness of group members to pursue common goals with an understanding that all members will fulfill their group obligations and not cause any harm, even when those

trusted are strangers. In traditional practice the binding rules would simply be an unwritten contract, which is trust (Molomo, 2006). Indeed Molomo (2006:192) comments that "this trust can also be traced to the *Tswana* traditional culture of entrusting a herd of cattle … to a herdsman, in the belief that he will not steal or harm them."

4.4 Social trust among *Batswana*

Whether *Batswana* remain a trusting citizenry today has been debated – largely in political science, with Molomo (2006:192) arguing that "with the advent of modernization as people transcend their primordial, tribal and traditional loyalties they lose the bond of family and social networks". One can only agree with Molomo that modernity has almost banished some of the more ritualistic ceremonies that often brought families and society together and formed much of *Batswana's* traditional or religious beliefs and practices. But other traditional practices remain by and large intact and continue to preserve family bonds and social networks, such as cattle rearing/ownership, *motshelo* (the community credit scheme), marriage ceremonies, *botsetsi* (a period of confinement following childbirth), *mantsho* (a celebration that marks the end of *botsetsi*), music and dance.

Political scientists further argue that Botswana is characterized by high levels of civil society disengagement – based on empirical data that show low levels of engagement in voluntary associations and high voter apathy (Democracy Research Project, 2002). For instance, Botswana's Afrobarometers of 2003 and 2005 showed that *Batswana* were not active members of civil society organizations and demonstrated low levels of trust in political institutions. All ratings for such institutions as the police, the independent

electoral committee and the ruling party, as well as those for government newspapers were below 50 percent. However, the 2012 *Global Competitiveness Report* stated that "among Botswana's strengths are its relatively reliable and transparent institutions with efficient government spending, strong public trust in politicians and low levels of corruption" (Schwab, 2012:42). The *Global Competitiveness Report* followed the Afrobarometer survey of 2008, which contrary to the previous Afrobarometers just mentioned showed high levels of satisfaction among *Batswana* with their governing institutions (Mogopodi *et al.*, 2012). The 2008 Afrobarometer may have been influenced by the initially popular appointment of Sir Seretse Khama Ian Khama as the country's President.

His Excellency Sir Seretse Khama Ian Khama, Paramount Chief of the *Bangwato* (one of the main ethnic subgroups in Botswana), is the eldest son of Botswana's first President, Sir Seretse Khama. Seretse Khama has always remained dear to the hearts of *Batswana* as the country's much loved first President, and so it followed that his son, initially at least, would be endeared to the masses as well. Ian Khama had not been in power as President for a year when the 2008 Afrobarometer survey was carried out. The survey showed that 82 percent of *Batswana* were satisfied with the way democracy was working in Botswana, with 44 percent very satisfied and 38 percent fairly satisfied. In addition, the public trust rating for President Ian Khama's performance was the highest for any current head of government in sub-Saharan Africa in 2008 (Mogopodi *et al.*, 2012). Most importantly, the survey revealed that 80 percent of the population said the government was doing well or fairly well in providing health services (Mogopodi *et al.*, 2012).

However, the most recent Afrobarometer has shown different results from the 2008 survey. The 2012 Afrobarometer indicates that *Batswana* generally believe that corruption has increased and that the majority (over 80 percent) of Members of Parliament are corrupt. This is in spite of the fact that Transparency International ranks Botswana as a relatively 'low corruption' country. On a scale of 0-100 (where 0 means a country is perceived to be highly corrupt and 100 means it is perceived to be very 'clean') Botswana scored 65, ranking her the 30th least corrupt out of 176 countries (Transperancy International, 2012). It was reported that the 2012 Afrobarometer showed that more than half of *Batswana* perceived the President to be corrupt as well (not just Members of Parliament) (University of Botswana, 2012). However, with regard to service delivery it found that the majority of *Batswana* (77 percent) approved of President Ian Khama's job performance.

Critics of Botswana's democracy, including Professor Kenneth Good (an Australian political scientist declared a prohibited immigrant by Botswana in 2005 after he reportedly opined that the country was run by a secretive elite), have argued that although considered a model for democracy in Africa, Botswana's is actually a minimalist democracy (Good and Taylor, 2008). They argue that although Botswana has a functioning electoral democracy, it is also characterized by elitist top-down structures that perpetuate illiberal authoritarianism and presidentialism. Mogalakwe (2009) agrees with their argument, and states that the executive dominance in Botswana's political system stands in contrast to the spirit of fair competition that is intrinsic to democracy. It should be noted that Ian Khama, who assumed the presidency from Festus Mogae in April 2008, has not altered the executive dominance that Good and Taylor criticize (Ian Khama being the fourth President of Botswana, following his

father's first presidency from 1966-1980). In fact, criticism of Botswana's acclaimed democracy under (Lieutenant General) Seretse Khama Ian Khama has been that he is militarizing and personalizing power. His presidency has seen an increase in the number of civil service positions given to army officers (often without due recruitment processes) and the introduction of what some have called a repressive institution, the Directorate of Intelligence and Security (DIS) (Good, 2010).

To explain the apparent populism or approval of Ian Khama in spite his perceived corruption some have suggested that most *Batswana* see in him his father, through whose political acumen and guidance Botswana was able to obtain protection and independence from the British during Southern Africa's turbulent times of divide and conquer. Perhaps Henderson (1990:27) was right when he opined that "the history of modern Botswana is very much the history of Seretse Khama". If that is so it is perhaps reasonable to accept that over and above Ian Khama Seretse Khama's own earned public trust (largely attributable to his grassroots efforts to eradicate poverty and engage with the people, especially in rural and poor communities), the foundation upon which he stands approved by the masses is the legacy created by his father. Does this say *Batswana* are trusting of public institutions intended to serve them?

It is reasonable to conclude that *Batswana* are generally trusting of public institutions intended to serve them. During the colonial period *Batswana* relied on missionaries for education, but by the time of independence they began to take a more leading role in the country's educational development (Mafela, 2007). Education in Botswana has always been developed to reflect or respond to challenges in the country, including the socio-economic landscape of the country and the region of Southern Africa. Reflecting

responsiveness, it is claimed that curriculum development or offerings and educational endeavours in Botswana have largely been shaped by *Batswana's* demands and perceptions of education (Mafela, 2007). To date, *Batswana* continue to enjoy publicly funded education.

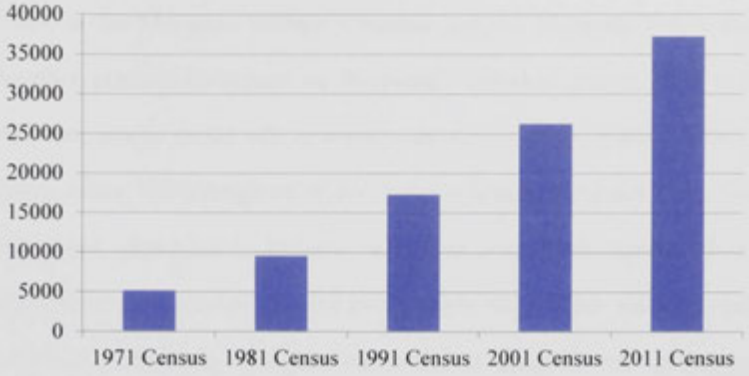
4.5 Palapye - the study setting

4.5.1 Population geography

Palapye is situated along the major A1 highway 270 kilometres from Gaborone and 170 kilometres from Francistown, the only two cities in Botswana. It is part of the eastern corridor in which the majority of *Batswana* reside, and although classified a 'village' is mostly an urban place which should now be classified as a town. Indeed, there is currently a move to table a motion in Parliament to declare Palapye a town. Palapye has grown rapidly over the years, largely due to rural-urban migration (Figure 4.2), and at the 2011 Botswana census had an estimated population of 37,256, of whom 18,526 were males and 18,730 were females (Central Statistics Office, 2012a). It is one of the primary centres, and the third largest village in the Central District. The concept of a 'village' in Botswana is not a function of population size alone. Land use (whether, for example, primarily agricultural or devoted to mining) is also taken into account. The presence of a tribal authority (such as a Chief, Chief's representative or Headman) also tends to perpetuate designation of a locality as a 'village'.

Rural-urban migration is primarily responsible for the population growth in Palapye and is a major process effecting social, economic and demographic change throughout Botswana. It is characterized mainly by an increasing mobility of women, especially those who are young, single and unattached or have few or no dependents.

Figure 4.2: Palapye population growth, 1971-2011



Source: Botswana Central Statistics Office, 2012

Urban places are viewed as progressive and economically modern, while rural places are viewed as spaces mainly characterized by traditional economic activities. This widely held dichotomous view leads to urban migration in search of modernity. This means that people do not just migrate for economic reasons, but also for non-economic reasons such as modernization, and that traditional practices are observed more often in rural places than in urban places. While progress is not a bad thing in and of itself, from a cultural perspective modernity can be destructive. It brings both opportunities and challenges as regards migrants' socio-economic circumstances, but it also disrupts traditional family and social structures. There may be opportunities to access services that may not be available in rural places, but migrants also face housing challenges, an increased cost of living and often a lack of employment, as well as being exposed to challenges posed by increased demand on infrastructure and other services.

4.5.2 Socio-economic profile

Palapye is a strategically placed village and literally a powerhouse for Botswana. It is home to the Morupule Colliery Coalmine and the Morupule Power Station, which together provide 30 percent of Botswana's electrical energy. This is the primary domestic power source that is supplemented by imports, especially from Eskom in South Africa. The Morupule Colliery Coalmine and the Morupule Power Station remain the major employers in Palapye, and have contributed significantly to its rapid population, economic and physical growth. Both the coalmine and the power station are currently undergoing expansion as Botswana grapples with producing sufficient domestic energy.

Palapye was also selected to be the home for the country's second university – Botswana International University of Science and Technology (BIUST) – established by an Act of Parliament in 2005. Although BIUST was planned to enroll its first students in 2009, and was expected to grow to its full capacity of 10,000 students by 2016, construction only began in 2009 and in 2013 was still ongoing. To date the university is yet to enroll a student in Palapye. The first cohort of students is currently housed in Modipane, a village 30 kilometres from Gaborone. A multi-million Pula police station (US$1 converts to about P8), a glass manufacturing complex and a fire station (a district-level headquarters) that services smaller fire brigades across the entire Central District are other recent developments in Palapye.

These developments have contributed to the shaping of community life and culture in Palapye, influencing them in many different ways. Tensions have grown between people's customs, culture and traditions and the rapid development taking place in and

around the village. People want to hold on to their traditional way of living, but they also want to advance their lives and those of their families, and so are often torn between traditional beliefs and 'western' ways of thinking. There is often significant emphasis on issues of success and wealth that deviate from traditional views, resulting in tensions not just between generations but also between the sexes. More women and young girls want to go to school and obtain formal jobs.

4.5.3 Health services

Palapye Primary Hospital (PPH), the main study site, is the principal hospital that serves the village and surrounding communities. These communities include other villages ranging in population from 258 to 6,871 at the 2011 Census, and smaller settlements referred to administratively as 'catchment areas' for PPH, ranging in population from 11 to 1,903. In addition to the hospital, there are four public medical clinics in Palapye: the Extension 3, *Kediretswe, Lotsane* and *Khurumela* clinics (Figure 4.3). These facilities support other smaller clinics, health posts and mobile stops in peripheral catchment areas.

Other health facilities available in Palapye include private clinics (five general practices), a private dental clinic, an eye clinic and a facility providing medical testing, imaging and laboratory services. Residents of Palapye are also able to access HIV services from the *Tebelopele* (look into the future) Voluntary HIV Counseling and Testing Centre. *Tebelopele* is an initiative of the government in partnership with the US Centers for Disease Control and Prevention that aims to provide free, anonymous, rapid HIV testing with same-day results outside the main health system.

Figure 4.3: Map of Palapye showing public health facilities

Palapye is host to the District Health Management Team (DHMT), which is responsible for the management and coordination of health services in the Central District. Other health facilities/services include the Palapye home-based care unit, which is supported by the DHMT and provides home-based health assistance to vulnerable patients, including bed-ridden patients, people living with HIV/AIDS and patients who are wheelchair-bound or otherwise home-bound. Patients who require medical care above what can be offered at PPH are referred to Mahalapye District Hospital (56 km away), Sekgoma Memorial Hospital (another district hospital which is 40 km away), Selebi Phikwe District Hospital (140 km away) or Nyangabgwe Referral Hospital in Francistown (170 km away).

Palapye is a generally clean village with adequate sanitation and waste management systems. Most houses now have sewer connections, although some still use pit latrines. Refuse and other waste are collected fortnightly by the village District Council, while some households still burn much of their refuse around their yards.

4.6 Socio-demographic characteristics of the study samples

General information relevant to the study was gathered from key informants in the Botswana and Palapye health systems and these informants are described below. Then the characteristics of the women (36 in total) who consented to in-depth face-to-face interviews are tabulated in Table 4.1 and described. Finally the socio-demographic attributes of the women who were members of the obstetric records review sample (942 in total) are presented in Table 4.2 and summarized in the text.

4.6.1 Key health informants

A total of 11 healthcare professionals and three government bureaucrats were interviewed as key informants for the study (see Table 3.3 in Chapter 3). These key informants were selected as people able to provide a picture of some of the challenges facing the health system in Botswana with particular reference to maternal and child health services in the context of HIV/AIDS. A hospital orderly in this group was an older woman who had worked at PPH for over 15 years. Her keen interest in issues of HIV/AIDS as well as her knowledge of the culture and tradition of pregnancy and childrearing, and the need to provide assistance to nursing staff through task-sharing (or task-shifting) made her an ideal worker for the hospital's MCH section. It also made her a well-placed informant for the study. There were also three lay counselors interviewed, young people, in this instance aged between 21 and 27 years, who have become a vital

component of HIV/AIDS treatment and care roll-out programs across Botswana. These lay counselors have become known as the barefoot doctors of Botswana's health workforce – a type of medical auxiliary that has appeared in sub-Saharan Africa with increasing frequency since the emergence of the need for HIV/AIDS treatment and care.

Two medical officers were interviewed from among the many foreign medical doctors (mainly from other African countries) that Botswana's health system has become reliant upon. Only about 10 percent of medical doctors in Botswana's public health sector are *Batswana*, but Botswana is a relatively attractive place for doctors from elsewhere in Africa to work, paying comparatively well and reliably and offering a good staging post for onward migration to jobs in developed countries. Other informants included three midwives and two registered nurses, all of whom were Batswana. Two of the midwives were based at PPH and the third was the District coordinator for the program to prevent mother-to-child transmission of HIV (PMTCT) at Khurumela Clinic, one of the clinics in Palapye. Both of the registered nurses interviewed were based at PPH.

In addition to these 11 informants, at various points during the fieldwork period three Ministry of Health bureaucrats were consulted on issues relating to PMTCT policies and guidelines, as well as on other issues emanating from interviews with healthcare workers. These bureaucrats included the PMTCT coordinator at the Department of HIV/AIDS Prevention, Treatment and Care in the Ministry of Health.

4.6.2 Face-to-face interview informants

Only women who were aged 18 years and older were recruited for in-depth face-to-face interviews, so the ages of women interviewed ranged from 18 to 42 years (Table 4.1).

Table 4.1: Demographic characteristics of the qualitative interviews sample by HIV status

Characteristic	HIV Status		
	HIV-positive*	HIV -negative*	Total
	(n=22)	(n=14)	(n=36)
Age (years)			
18-24	22.7	71.4	41.7
25-29	18.2	7.1	13.9
30-34	40.9	21.4	33.3
35-39	9.1	-	5.6
40 or older	9.1	-	5.6
Total	100.0	99.9	100.1
Parity			
1	13.6	42.9	25.0
2	31.8	35.7	33.3
3	13.6	14.3	13.9
4	27.3	7.1	19.4
≥5	13.6	-	8.4
Total	99.9	100.0	100.0
Marital status			
Single	68.2	71.4	69.4
Married	13.6	14.3	13.9
Widowed/Separated/Divorced	9.1	-	5.6
Cohabiting	9.1	14.3	11.1
Total	100.0	100.0	100.0
Education level			
Primary	18.2	-	11.1
Junior Secondary	45.5	35.7	41.7
Senior Secondary	27.3	42.9	33.3
Tertiary	9.1	21.4	13.9
Total	100.1	100.0	100.0
Employed?			
Yes	27.3	35.7	30.6
No	72.7	64.3	69.4
Total	100.0	100.0	100.0
Religion/Denomination			
None	40.9	28.6	36.1
African independent	36.4	21.4	30.6
Traditional mainline	4.5	42.9	19.4
New charismatic	9.1	-	5.6
Catholic	4.5	-	2.8
Pentecostal mainline	4.5	7.1	5.6
Total	99.9	100.0	100.1

Source: Women recruited at Palapye Primary Hospital who participated in the in-depth face-to-face interviews

*Figures tabulated are column percentages for each characteristic

The minimum age of study informants was set at 18 because this is officially recognized as the age of consent as an adult. Had any informants been younger it would have been

necessary to seek parental/guardian consent for their participation as well. The average age of the interviewed women was 27.4 years, with a median age of 26.5 years. Sixty-one percent of the women who were recruited were HIV-positive. Slightly under 42 percent of the women were aged 18-24 years, 14 percent were aged 25-29 and 33 percent were aged 30-34 years. The remaining approximately 11 percent were aged 35 or older.

The largest proportion of women who were HIV-positive (40.9 percent) were aged 30-34, while 71.4 percent of those who were HIV-negative were aged 18-24 and there were no HIV-negative women aged 35 or older. One-quarter of the women were primiparous and three-quarters were multiparous, with almost 28 percent having given birth to four or more children. About 32 percent of HIV-positive women were parity two, followed by 27 percent who were parity four and 13.6 percent each who were parities 1, 3 and 5 or more. There were no HIV-negative women who had 5 or more children. The largest proportion of HIV-negative women (42.9 percent) had only one child, followed by 35.7 percent who had two and 14.3 percent who had three.

The most common level of educational attainment among the interviewed women was junior secondary (42 percent) followed by senior secondary (33 percent). Only 14 percent of the women had attained tertiary education. None of the women who were interviewed and were HIV-negative had only primary education while 42.9 percent had senior secondary education, 35.7 percent junior secondary education and 21.4 percent tertiary education. The largest proportion of women who were HIV-positive (45.6 percent) had junior secondary education and only 9.1 percent of this group had tertiary education.

The majority of the women were single (69 percent), while only about 14 percent were married and 11 percent were in cohabiting unions. The remainder were widowed, separated or divorced. It is worth noting here that many women will say they are single rather than cohabiting, unless directly asked whether they are living with their partner/boyfriend. In this study, women were consistently asked if they were married and were not prompted further to ascertain whether they were cohabiting. Women who were not married were not asked if they were living with a partner or not for one main reason – that of stigma associated with both HIV and cohabitation. This is in spite of the fact that cohabitation is a common phenomenon in Botswana (Pitso, 1997, Mokomane, 2004).

Cohabitation in Botswana is viewed negatively by society, is not recognized by law and is not widely seen as an alternative or preferred option to marriage, but rather as a temporary arrangement that it is hoped will lead to marriage (Mokomane, 2004, Mokomane, 2005a, Gaoswediwe, 2009, Bule, 2010). It is "treated trivially", while marriage is viewed as "the more serious ideal type of union" (Mokomane, 2004:71). Cohabitation is viewed negatively in Botswana society for several reasons. First, women in cohabiting unions are largely those who are socio-economically disadvantaged, likely to be young, with less education and not employed (Mokomane, 2004, Gaoswediwe, 2009). Second, as Mokomane (2004:65) confirms, "indication of the social attitudes to cohabitation can be gleaned from the terminology used to describe these unions". Mokomane (2004:65) conducted a cohabitation survey in which older generations saw cohabitation as "equivalent to concubinage". Mokomane further asserts that in-depth interviews revealed that even women who were in cohabiting unions did not prefer them, seeing them as a waste of their time because the men in them did not

want to commit to marrying them. It is reported that only men in cohabiting unions see them as a good alternative to marriage (Mokomane, 2004); in contrast for women they are rarely a deliberate and individualized choice. This is different to the situation reported for such unions in industrialized countries, where both men and women see them as a convenient alternative or precursor to marriage (Carmichael, 1995). Traditionally, marriage in Botswana is a lengthy process that involves both the woman's and the man's parents (Pitso, 1997), while cohabitation does not involve parents negotiating their children's union and is therefore also viewed as lacking parental blessing.

Usually in such a union it is believed that the man does not wish to commit to marriage until he has satisfied himself of such things as the woman's fertility and their compatibility as a couple. But even then there is no guarantee that following the birth of a child (or children) the man will commit to marriage. Knowledge of the implicit disadvantages that women living in and children born into cohabiting unions face contributes to society's negative view of the institution. These days women in such unions also tend to be perceived negatively because they risk contracting HIV just to 'pass' the fertility test in anticipation of marriage, while some women are believed to accept such arrangements to obtain economic provision and even for survival.

Therefore, to make recruited informants comfortable and free from feeling judged on the basis of these perceptions, it was felt best not to attempt to ascertain through specific probing whether women who were not married were cohabiting, and simply accept the responses women gave. In hindsight it might have been better to ask women what their marital statuses were, instead of simply asking "Are you married?" Some women asked

this question, like Olebogeng, a 36 year-old mother of three, did go on to elaborate. "I am not married, and I've lived with the father of my children for 8 years but we are not married". But such elaborations occurred at the initiative of respondents. It was assumed that women who had positive views of their cohabiting arrangements would identify as cohabiting, especially if they viewed the arrangement as a deliberate personal choice and one not entered desperately seeking or hoping for marriage.

Table 4.1 further shows that 68.2 percent of HIV-positive women were single with 13.9 percent married and 9.1 percent in each of the previously married and cohabiting categories. The majority of all informants (69 percent) and HIV-positive informants (73 percent) were not employed. A third of the women identified themselves as non-religious while over 50 percent identified as practicing Christianity, although with varying doctrinal bases. The African Independent church accounted for 30 percent of informants, followed by traditional mainline churches (19 percent), which include mainly missionary-established churches. About 41 percent of HIV-positive women identified as practicing no religion, while 36 percent belonged to the African Independent group followed by 9 percent who were New Charismatics and about 5 percent in each of the Traditional mainline, Catholic and Pentecostal categories.

4.6.3 The obstetric records review sample

A total of 942 records were sampled and analyzed to inform the study, as detailed in Chapter 3. Data from the obstetric records showed the women's ages ranging from 15 to 45 years, with a mean of 25.7 years and a median of 25.0 years. The HIV prevalence among these women was 38.9 percent, with only a small proportion (0.5 percent) indicating that their HIV status was unknown due to not having been tested.

Table 4.2 shows the percentage distributions of women's demographic characteristics by HIV status. The largest proportion of women (31 percent) was found in age group 20-24 years. Women aged below 30 years formed the majority of the sample (76.5 percent), while approximately 24 percent were aged 30 years or older. The same age distribution was found for both the HIV-positive and HIV-negative groups. The women in the sample were predominantly primiparous (i.e., having first or second children) (60 percent), followed by women with 2-3 children (27.7 percent), those with 4-5 children (9.6 percent) and a small proportion with 6 or more children (2.4 percent). Single women formed the vast majority of this study sample (90.1 percent) – perhaps owing to the fact that women were simply asked "Are you married?", and people in Botswana generally consider themselves married only if they have gone through a form of marriage ceremony, which can be civil, customary, Christian or several of these. HIV-positive women (89.7 percent) were also predominantly single, followed by 7.5 percent who were married while only 1.4 percent were in cohabiting unions and another 1.4 percent were widowed, divorced or separated. A similar distribution was observed for HIV-negative women.

A little under one in five women had only primary school education, while over three-quarters (78 percent) had secondary or higher education and less than one in 20 had no education. Only 5.1 percent of HIV-positive women had tertiary education compared to 28.1 and 47.7 percent, respectively, who had primary and junior secondary education. Only 29 percent of women in the sample were involved in any type of employment or work activity that allowed them to earn an income. The majority of HIV-positive women (72.8 percent) were not working, compared to 27.2 percent who were in some form of employment where they earned an income.

Table 4.2: Obstetric records review sample: characteristics of women by HIV status

Characteristic	HIV Status			
	HIV +ve*	HIV –ve*	Not tested*	Total
	(n=366)	(n=571)	(n=5)	(n=942)
Age (years)				
15-19	22.6	24.3	40.0	23.7
20-24	34.2	28.7	-	30.7
25-29	20.9	22.9	20.0	22.1
30-34	13.5	14.4	-	14.0
35-39	6.6	8.3	40.0	7.8
40-44	2.2	1.4	-	1.7
Total	100.0	100.0	100.0	100.0
Parity				
0-1	61.2	60.1	20.0	60.3
2-3	27.3	27.7	60.0	27.7
4-5	8.5	10.2	20.0	9.6
≥6	3.0	2.1	-	2.4
Total	100.0	100.1	100.0	100.0
Marital status				
Single	89.7	91.6	100.0	90.9
Married	7.5	7.5	-	7.4
Widowed/Separated/Divorced	1.4	0.2	-	0.6
Cohabiting	1.4	0.7	-	1.0
Total	100.0	100.0	100.0	99.9
Education level				
None	5.1	3.8	40.0	4.5
Primary	28.1	11.5	-	17.9
Junior Secondary	47.7	44.5	20.0	45.6
Senior Secondary	13.9	31.7	40.0	24.9
Tertiary	5.1	8.5	-	7.1
Total	99.9	100.0	100.0	100.0
Occupation				
None	72.8	69.9	60.0	71.0
Office worker	6.6	7.9	20.0	7.5
Labourer	6.3	6.3	-	6.3
Domestic worker	4.1	3.2	20.0	3.6
Student	3.8	5.8	-	5.0
Sales worker	3.3	2.8	-	3.0
Store worker	3.0	3.7	-	3.4
Farmer	-	0.4	-	0.2
Total	99.9	100.0	100.0	100.0
Religion/Denomination				
None	47.5	52.3	40.0	50.4
African independent	38.3	29.3	60.0	32.9
Catholic	1.9	0.9	-	1.3
Jehovah's Witness	-	0.2	-	0.1
Pentecostal mainline	3.3	4.0	-	3.7
New Charismatics	4.6	7.2	-	6.2
Seventh Day Adventist	0.5	0.2	-	0.3
Traditional mainline	3.8	6.0	-	5.1
Total	99.9	100.1	100.0	100.0

Source: Women's obstetric booklets held at Palapye Primary Hospital

*Figures in table are column percents for each characteristic

Table 4.2 further shows that 50 percent of the women were recorded as practicing no religion, with 33 percent indicating African Independent as their religion followed by New Charismatics (6.2 percent) and Traditional mainline (5.1 percent). HIV-positive women (47.5 percent) were also predominantly women who did not belong to any religious group, followed by 38.3 percent who belonged to the African Independent church and the rest to other religious groups in much smaller proportions.

Interestingly, of all the HIV-positive women, none were Jehovah's Witnesses, perhaps owing to the strict beliefs and practices of this church helping to protect members from behaviours, such as having multiple partners, that have been found to influence the spread and contracting of HIV.

4.7 Discussion

A large proportion of women in the qualitative and quantitative samples were single and this is consistent with recorded ages at marriage in Botswana. The mean age at first marriage for women in Botswana remained consistently between 31.1 and 31.9 years between 2002 and 2008, rising to 32.6 years in 2010 (Central Statistics Office, 2012c). Women aged 30 years and under formed over 75 percent of the obstetric records sample. There is not much evidence in the literature to indicate that *Batswana* are bound by strict cultural practices with regard to premarital sexuality and pregnancy that could be seen as limiting them to socially approved relationships.

It is therefore not surprising to find that sexual activity and consequent childbearing frequently occurs outside the institution of marriage. While in other societies, such as those of Asia, marriage is viewed as the point after which childbearing can begin (Barua, 2012), this is not necessarily the case in Botswana, where childbearing outside

marriage is socially acceptable and very common (Pitso, 1997). With a low marriage prevalence in Botswana, childbearing has almost become a prerequisite to marriage (if one ever gets married), not the other way around. The women in this study paint a picture of frequent premarital, non-marital and teenage childbearing, which leads to large proportions of female-headed households (Pitso, 1997, Mookodi, 2000) with in turn substantial implications for the health system (see also Chapter 1, section 1.2.4 on social organization in Botswana).

Female-headed households generally tend to be poorer than households with productive male and female partners. They often own smaller herds of cattle (if they own any), and may have limited access to land and other productive means to improve their economic status (Central Statistics Office, 2011). The poor economic status of many women has exacerbated their susceptibility to contracting HIV, as many of them become reliant on male partners to provide for them, unfortunately often leading to them losing decision-making power in such areas as the practice of safe sex and the use of contraceptives.

Consistent with figures from the 2011 ANC sentinel surveillance report, which showed HIV prevalence among pregnant women aged 15-49 years in Serowe/Palapye Health District to be 35.2 percent (and 38.1 percent when standardized to the national age structure of pregnant women aged 15-49), the data from the obstetric records review showed HIV prevalence among women giving birth in Palapye between April 1st 2005 and March 31st 2010 to be 39.1 percent.

HIV-infected women face discrimination in two ways: first as people living with HIV/AIDS and secondly because they are women, because in Botswana there is

systemic gender inequality, including gender inequality before the law. Because of various traditional practices, women also carry a heavier burden of HIV/AIDS, not only as patients themselves, but as caregivers to the sick and orphaned. It is therefore important that the healthcare system should be able to help women cope with these burdens that have the potential to impact adversely on their overall health.

Tables 4.1 and 4.2 also showed low levels of employment and tertiary education among the study samples, mirroring some of the general conditions for women that have been observed in Botswana. The 2009-10 Botswana core welfare indicators showed that Serowe/Palapye was among the four health districts (out of 24) with the highest poverty levels, and that women across the country had a higher unemployment rate (21 percent) than males (14 percent) – the unemployed defined as those individuals who not only were available for work, but had taken active steps to find work (Central Statistics Office, 2011). Thus the women who are the focus of this study display characteristics and face issues that are common to women in Botswana, the majority of which carry significant implications for the health system.

With many women in Botswana living with HIV/AIDS, in poverty, and with limited education it is obvious that they become less empowered to take control of their lives as their dependence on others increases. This makes women vulnerable to various forms of abuse such as rape, intimate partner violence and lack of autonomy in reproductive decision-making, including that surrounding the use of contraceptives. Understanding the conditions in which women live, especially during pregnancy, is fundamental to healthcare provision. Gathering information on women and from women potentially can help health practitioners and policymakers to plan relevant organizational processes and

policies that can ultimately ensure the health system responds adequately to women's health issues. This study aims to contribute to such an outcome.

CHAPTER 5

ANTENATAL AND POSTNATAL CARE ATTENDANCE

5.1 Introduction

Healthcare reform in Botswana has moved on from the days of the rudimentary health services of the mid-1970s through a number of international health developments implemented through the country's own national health policies. Such global health initiatives as the Alma Ata Declaration, the Ottawa Charter on health promotion, the Bamako Initiative and most recently the Millennium Development Goals have had a profound impact on health planning and health services in the country.

The Alma Ata Declaration promoted the concept of primary health care as a model for the development and provision of health services. The Ottawa Charter built on primary health care and emphasized health equity through health promotion at community and individual levels, with equal opportunities and access to health resources. The Bamako Initiative emphasized effectiveness and efficiency through equitable financial support for health services. The Millennium Development Goals (MDGs), on the other hand, saw countries like Botswana setting goals in various development areas, including health, to be achieved by 2015. Two goals which are of interest in this thesis are MDGs 4 and 5, which respectively focus on reducing child mortality and improving maternal health.

The effectiveness and efficacy of antenatal care (ANC) and postnatal care (PNC) have been debated, but it is generally agreed that ANC and PNC attendance do help reduce medical complications related to pregnancy and childbirth for women and promote

better health outcomes for newborns, including better nutrition and immunisation coverage (Carroli *et al.*, 2001, Brown *et al.*, 2008). The use of these services contributes immensely to the survival and wellbeing of both mothers and their newborn children. This is because, in accessing them, women receive health care geared towards preventing, treating or managing health problems or diseases that are known to have unfavourable pregnancy outcomes. They also receive health education regarding childbirth, childcare and postnatal recovery, which can help improve health outcomes.

It has already been discussed in Chapter 1 how maternal and child health (MCH) in Botswana has improved over the years. By 2011, WHO estimates of under-5 mortality and the maternal mortality ratio indicated that Botswana was on track to achieving its MDG 4 goal, but not its MDG 5 goal. Botswana's targets are to reduce the under-5 mortality rate from 81 deaths per 1,000 live births to 20 per 1,000 and the maternal mortality ratio from 350 maternal deaths per 100,000 live births to 35 per 100,000 between 2000 and 2015. During the years before HIV/AIDS took a toll on women and children in Botswana, health indicators for these groups were improving steadily. However, the MDGs were set in 2000, and at that time both under-5 mortality and maternal mortality were increasing due to HIV – the former had risen from 53 per 1,000 live births and the latter from 140 per 100,000 live births in 1990 (WHO, 2013b). By 2011 the under-5 mortality rate had dropped again to 26 per 1,000 live births, fifty percent below its 1990 level and with every chance of reaching the target of 20 per 1,000 by 2015 (although the World Bank estimate shown earlier in Figure 1.2 is somewhat higher). At 160 per 100,000 live births the maternal mortality ratio, however, while it had more than halved since 2000, was still above its 1990 level and unlikely to reach 35 per 100,000 by 2015 (see also Figure 1.3 in Chapter 1).

The pre-HIV downward trends in maternal and child mortality and health investments the government had put in place, including upgrading of health facilities and expanding services across the country, ensured that health system performance (at least in terms of service provision) improved for better health outcomes. In addition, subsequently the government was prepared to make, and had committed to making, further investments in healthcare, especially those geared toward preventing and treating HIV/AIDS and its co-morbidities. Botswana was the first country in sub-Saharan Africa to commit to providing universal HIV/AIDS treatment in the public sector while many others were still debating whether universal coverage was cost-effective, let alone possible. Between 2001 and 2011 the rate of new HIV infection in Botswana dropped by 71 percent, and deaths due to HIV fell by 71 percent between 2005 and 2011 (UNAIDS, 2012a).

The slightly negative net progress in bringing about maternal health improvements in Botswana from 1990 to 2011 stands in sharp contrast to the country's supportive political, policy and funding environment for MCH services. It of course reflects the impact of HIV/AIDS in first causing a marked increase in maternal mortality, but the finding that while under-5 mortality has improved since 2000 to below the 1990 level, maternal mortality has not raises the question of why the generally high MCH service coverage estimates have not yielded a commensurate health outcome for women. Could there be gaps in the provision of MCH services such that, although women patronize them in large numbers, they are still not deriving the full benefits from those services?

The thesis provides some answers to this question concerning gaps in provision of MCH services, and the topic is addressed in all three results chapters (Chapters 5, 6 and 7). In this the first of these chapters most of the information presented derives from study of

the five-year sample of obstetric records of 942 women who were cared for by Palapye Primary Hospital (PPH). In one section, dealing with distance from nearest health facilities, qualitative data are also used, and these derive from the in-depth interviews with a non-random sample of recently delivered Palapye women. The methodology adopted to interrogate PPH obstetric records and recruit the in-depth interviewees is described in detail in Chapter 3.

For analysis, MCH services were decomposed into antenatal care (ANC) and postnatal care (PNC). The key purpose of this chapter is to ascertain whether and to what extent women who were sampled to inform the study used these MCH services. Use of ANC and PNC is quantified and then analysed for relationships to socio-demographic characteristics and HIV status. In the following chapter the same samples are used to investigate application of the program for PMTCT. The final results chapter (Chapter 7) then focuses more intensely on the in-depth interviews with women from PPH, some of whom did and others of whom did not use these ANC services. Informants for these interviews were chosen purposively to ensure that both ANC users and non-users were adequately represented. Interviews did not probe use of PNC because they were conducted too soon after delivery for routine PNC to have been sought.

5.2 Antenatal care

Many studies have demonstrated that women who receive ANC – that is care before giving birth – have lower maternal and perinatal mortality and better pregnancy outcomes than women who do not receive ANC (Bloom *et al.*, 1999, Carroli *et al.*, 2001, Bullough *et al.*, 2005, Campbell and Graham, 2006, Brown *et al.*, 2008, Bhutta *et al.*, 2009, Chopra *et al.*, 2009, Haws *et al.*, 2009, Menezes *et al.*, 2009, Marazzi *et al.*,

2011, Allen *et al.*, 2012, Shapiro *et al.*, 2012). The number of ANC visits made and the woman's gestational age at initiation of ANC (i.e., first consultation visit) have also been shown to have associations with pregnancy outcome (Carroli *et al.*, 2001, Majoko *et al.*, 2007). However, a study conducted by Dowswell *et al.* (Dowswell *et al.*, 2010) did not detect such associations. This difference in study results could have arisen because most pregnancy and childbirth-related complications occur unpredictably during labour and delivery. However, many life threatening complications could be avoided with prompt and adequate diagnosis and appropriate care.

Studies that show an association between obstetric outcomes and ANC attendance attribute the association to an increased likelihood of being assisted during delivery by a skilled attendant (Bloom *et al.*, 1999, Mpembeni *et al.*, 2007). Therefore, it is in one or both of these ways (early commencement of ANC and repeat ANC attendance) that ANC contributes to improving pregnancy outcomes, because pregnancy and childbirth complications that may arise can be responded to appropriately to avert deaths. In addition, while ANC may not have total capacity to predict and avert obstetric emergencies, it is while attending ANC that women undergo various screening tests to detect and treat problems that may arise during pregnancy, as well as to identify other diseases that may have negative effects on pregnancy outcomes.

5.2.1 ANC attendance

In the abundant social epidemiology literature on healthcare utilization, scholars have examined utilization of MCH services in relation to socio-demographic characteristics such as a woman's level of education, parity, age and economic status, as well as in relation to access to health services as indexed by distance to a health facility. These

characteristics have been found to be related to use of MCH services in many settings. For example, several studies have found that educated women, women of lower parity and women with better economic status (i.e., who are not poor) tend to use MCH services more (Govindasamy and Ramesh, 1997, Addai, 2000, Letamo and Rakgoasi, 2003, Mekonnen and Mekonnen, 2003, Gage, 2007, Haggaz *et al.*, 2008, Babalola and Fatusi, 2009, Ochako *et al.*, 2011, Wang *et al.*, 2011).

Factors associated with the utilization of MCH services (e.g., ANC) in studies conducted in developing countries have generally been similar, but with varying degrees of association. Six groups of these factors were identified by Simkhada *et al* (2007) in a systematic review of the literature. These groups were as follows: 1) women's socio-demographic characteristics; 2) status in the household; 3) knowledge, attitudes, beliefs and culture; 4) availability and accessibility of health services; 5) affordability of health services; and 6) characteristics of health services. Variation in the degree of influence of individual factors has to do with the fact that health utilization is very much context-specific. Thus, depending on how each woman constructs her social world, particular factors would interact with her other life issues to influence her health decisions, including use of MCH services.

In this study in Palapye, Botswana, a high level of ANC attendance among women of childbearing age was evident. Data from obstetric booklets showed that almost 96 percent of the women who had delivered or presented at PPH maternity ward between April 1st 2005 and March 31st 2010 had attended ANC. Only a small proportion (4.2 percent) had not attended ANC during pregnancy. There was a slight variation by HIV status in the proportions of women who had and had not attended ANC (Table 5.1).

Only a very small proportion of women who were HIV-positive had not attended (2.7 percent), while 97.3 percent of these women had attended ANC. HIV-negative women were slightly more likely not to have attended ANC (4.7 percent), but the difference in the proportions of HIV-positive and HIV-negative maternity patients who had attended ANC was not statistically significant (p-value 0.09). A very small proportion of women (0.5 percent) whose HIV status was unknown were excluded from the analysis.

Table 5.1: Palapye Primary Hospital: Percentage attendance of women at ANC by HIV status

Attended ANC?	HIV Status		
	Positive	Negative	p-value*
	n=(366)	n=(571)	
Yes	97.3	95.3	0.085
No	2.7	4.7	
Total	100.0	100.0	

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

*Chi-square test

5.2.2 ANC attendance - variations by socio-demographic characteristics

This chapter focuses on women's socio-demographic characteristics in relation to healthcare utilization. In an effort to characterise women who attended or did not attend ANC, the analysis began with simple bivariate cross-tabulations using the Pearson chi-square test ($p<0.05$). Specifically, this analysis sought to discover whether there were associations between individual socio-demographic characteristics and ANC utilization. Table 5.2 shows that ANC attendance among women was high irrespective of their varied socio-demographic characteristics, as is only to be expected when attendance among all women exceeds 95 percent. However, some characteristics were associated strongly with ANC use, including secondary education (p-value <0.001), planning of pregnancy (p-value <0.001) and urban residence (p-value = 0.03).

Table 5.2: Palapye Primary Hospital sample of delivered mothers: Attendance at ANC by selected socio-demographic characteristics

Characteristics	*n*	Attended ANC? (%)			p-value*
		Yes	No	Total	
		n=902	*n=40*	*n=942*	
Age					
15-19	*163*	96.9	3.1	100	
20-24	*304*	96.4	3.6	100	
25-29	*228*	95.6	4.4	100	0.469
30-34	*123*	96.7	3.3	100	
35-39	*86*	91.9	8.1	100	
40+	*32*	96.6	3.1	100	
Parity					
0-1	*568*	96.1	3.9	100	
2-3	*261*	95.4	4.6	100	0.745
4-5	*90*	93.3	6.7	100	
≥6	*23*	100.0	0.0	100	
Marital Status					
Single	*843*	95.7	4.3	100	
Married	*69*	95.7	4.3	100	0.740
Separated/Widowed/Divorced	*6*	100.0	0.0	100	
Cohabiting	*9*	88.9	11.1	100	
Education attainment					
None	*41*	90.2	9.8	100	
Primary	*163*	90.8	9.2	100	<0.001
Secondary or more	*708*	97.3	2.7	100	
Religion					
None	*474*	95.6	4.4	100	
African Independent	*310*	95.8	4.2	100	0.946
Other Christian	*157*	96.2	3.8	100	
Employment status					
Not working	*665*	96.2	3.8	100	0.284
Working	*272*	94.5	5.5	100	
Was pregnancy likely to be planned?					
Yes	*218*	100.0	0.0	100	<0.001
No	*415*	94.0	6.0	100	
Place of residence					
Rural	*536*	94.6	5.4	100	0.031
Urban	*401*	97.5	2.5	100	

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

*Chi-square test

This thesis deals with data gathered from the Palapye area in Botswana. Some socio-demographic characteristics were statistically significantly associated with ANC utilization while others did not achieve significance. The latter group included age, parity, marital status, employment and religious affiliation. Slight differences were observed among age groups (Table 5.2), with women aged 35-39 more likely not to have attended ANC than women in other age groups. That only a few teenage mothers had not attended ANC may be a milestone worth recognising, as it could mean that efforts to make MCH services more youth-friendly in order to respond adequately to the problem of teenage pregnancy in Botswana are bearing fruit. As teenage mothers are made aware of ANC services and these services are made more accessible and acceptable to them, they may be finding it much easier to patronize them than several years ago when teenage pregnancy was heavily stigmatized. A study conducted by Letamo and Rakgoasi (2003) which analysed the 1996 Botswana Family Health Survey, for instance, found that the odds of a teenage mother having had no antenatal check-up were 13 times those of a woman aged 35 years and over (p-value <0.01). Repeated experience of pregnancy and childbirth may also influence ANC attendance. For example, women of higher parity may be less inclined to attend ANC based on their experiences of past pregnancies and their assuming they know all there is to know about pregnancy (Letamo and Rakgoasi, 2003).

The Palapye Primary Hospital obstetric record data (Table 5.2) show a positive trend between increasing parity and increasing non-attendance of ANC between parities 0-1 and 4-5. However, the trend reverses for parity 6+, where *no* women were non-attenders, and overall parity was not significantly associated with ANC attendance. There was also no significant difference in proportions attending ANC by women's

religious affiliations. This may be due to the fact that religious affiliation in Botswana is typically fluid, and people often practice a mix of modern Christianity and African religion, even though they may identify with a certain religious denomination. This is especially so with regard to issues of pregnancy and childbearing, most of which tend to be rooted in traditional customs and practices (socialization) as opposed to religion. All of the small number of women who belonged to the Jehovah's Witness and Seventh Day Adventist churches (not shown in the table, but included under 'Other Christian') had attended ANC, while two of the 12 Roman Catholic members had not attended.

Differences in the results found by studies of ANC utilization are not unusual, partly because methods of data analysis and study designs often vary. Most significantly, in other settings overall levels of ANC attendance have not been found to be as high as in the current study. Data on ANC attendance in sub-Saharan Africa indicate that in 2009 just 73.9 and 43.4 percent of women were estimated to have made at least one and at least four ANC visits, respectively (WHO, 2013a). In another recent analysis covering 21 countries in sub-Saharan Africa ANC coverage of over 90 percent was shown for about half of the countries, but for the other countries coverage ranged widely between 55 and 87 percent (Wang *et al.*, 2011).

5.2.2.1 Variation by educational status

Table 5.2 shows that for Palapye women, education was an important factor in the utilization of ANC. Higher levels of education were associated with significantly greater use of ANC, and significantly lower non-use, than lower levels of education. Women with secondary or higher education were less than one-third as likely not to have attended ANC as women with only primary education or no education at all, in both of

which categories almost one in ten women were non-attenders. Education has the potential to improve women's health literacy, build their confidence and improve their capacity to make decisions regarding their health and that of their unborn babies, and seek healthcare. But having said that, it must be noted that nine out of ten women with only primary education or no education *had* attended ANC.

5.2.2.2 Variation by rural-urban residence

The rural/urban divide has been found in other health utilization studies to act as a proxy for service utilization (Magadi *et al.*, 2000a, Gabrysch and Campbell, 2009). Due to inequalities in the geographic distribution of health services and facilities within countries, some areas, particularly rural areas, often present accessibility and affordability challenges for women.

In this study of women who delivered or presented at PPH in Botswana, a moderately significant association between rural-urban residence and ANC utilization was found – a significantly higher proportion of women residing in rural areas had not attended ANC (Table 5.2), although once again the vast majority of rural as well as urban women *had* attended. About one in 18 rural women had not attended ANC during pregnancy, compared to one in 40 urban women. That this association is not stronger may well be consistent with Botswana's healthcare investment and health service availability extending across the breadth of the country. According to the 2009 *Health Statistics Annual Report* (Central Statistics Office, 2012b), 84 percent of the population lived within 5km of a health facility, while 95 percent lived within 8km of one. However, it must be noted that distance from a health facility can present problems, even for women living in urban areas.

The further away women are from a health facility, the less likely they are to consistently use one, especially if it places a financial burden on them. For example, during the face-to-face in-depth interviews of women recruited from PPH, many women indicated that they walked to the clinic they attended most of the time, and that this became increasingly difficult as pregnancy advanced. Coupled with uncomfortable weather conditions, women often had to seek some other means of transport, even when a clinic was quite near their place of residence. When asked how they travelled to the clinic, this is what some informants had to say:

> *Kediretswe clinic is just here* (standing to point in the direction of the clinic, the corrugated roof of which could be seen from her yard), *so I walked all the time, though it was hard as I was pregnant and it was so hot, and this sand can be so hot even when you are wearing shoes,* mma! (madam). *But sometimes it was just impossible to walk, and when you don't have money to take a taxi what do you do? You miss your appointment.* (Kungo, 26 year-old HIV-negative mother of two).

> *I took a taxi all the time. I could not walk, even though you may think it is near. I had shortness of breath and it was just too hot to walk, and when you are pregnant you get so tired. If I did not have money for a taxi I would just wait until I could find it. Sometimes I asked the taxi driver to get his money later, and sometimes he would agree – you do know how afraid they are to refuse to help a pregnant woman* – ba tshaba karakantsi! (Aobakwe, 31 year-old HIV-positive mother of three)

This fear of refusing to help a pregnant woman is quite common in Botswana. It stems from a mythical belief that if a pregnant woman requests something from you and you deny her, you will develop a sore on top of your eyelid.

5.2.2.3 Variation by desirability of pregnancy

To assess whether a woman's pregnancy was likely to have been planned or desired, information relating to her contraceptive use was extracted from the obstetric booklet. Contraceptive use information recorded there included method of family planning being

used prior to the current pregnancy, and the reason for stopping using it. There was no contraceptive use information recorded in the obstetric booklets for 309 women – 32.8 percent of the obstetric records sample – so analysis is restricted to the 633 women for whom usable information was available. Women's reasons for stopping contraception varied and included such things as "wanted to conceive", "accident/condom burst", "did not stop contraceptive use/accident", "partner refused condom", "out of stock at clinic", "side effects" and "forgot to take pill". Where the obstetric record indicated the woman "wanted to conceive" the pregnancy was classified as "likely to be planned/desired", while the pregnancies of women giving all other reasons for stopping contraception and those indicating they had conceived while not contracepting because they had intended to abstain were classified as "likely to be unplanned".

Women whose pregnancies were planned or desired had always attended ANC (Table 5.2), and so among women for whom information was available ANC attendance was significantly associated with whether or not pregnancy was likely to have been planned. Women whose pregnancies are planned are often eager to confirm they are pregnant, and look forward to having healthy babies. Women whose pregnancies were not planned or were mistimed, on the other hand, whilst also highly likely to have attended ANC, sometimes found themselves challenged by pregnancy. Unplanned pregnancy is common among teenagers, who often try to hide the pregnancy to avoid expulsion from school. Then again, some women whose pregnancies are unplanned may not attend ANC if contemplating having abortions. Other such women may simply find it hard to accept their pregnancies. One such woman was encountered during the in-depth interviews.

Tebogo, aged 25, HIV-positive and with two healthy children already, knew her partner was HIV-positive and always insisted on safe sex practices with him (i.e., use of a condom). When she missed her period the first month she could not understand what the problem could be and did not think she might be pregnant. Because she did not feel ill she decided she was OK – she admitted at the same time that she wondered if she could be pregnant, but was afraid. Three months later, when it was by now clear she *was* pregnant, her partner and the father to her other two children deserted her claiming he was not the one who impregnated her, and she became overwhelmed and distressed. Asked why she hadn't attended ANC, Tebogo replied "Time just passed. I did not plan to not go to the clinic, and I just didn't know what was happening to me at that time."

5.3 Determinants of ANC attendance

The bivariate analyses carried out in the preceding section showed that certain socio-demographic characteristics had some association with attendance or non-attendance of ANC. However, the observed results could simply be due to other confounding factors that cannot be controlled for in bivariate analysis. Therefore, binary logistic regression was undertaken to assess the net effect of each socio-demographic characteristic on ANC utilization. The dependent variable was coded 1 if a woman had attended ANC and 0 if she had not attended ANC. Whether a woman's pregnancy was likely to be planned or not was not included in the analysis due to the large number of missing cases to which the variable gave rise. A recommended subsequent strategy would have seen the analysis rerun including this variable using the smaller number of cases for which it was available. However, because ANC attendance was universal among women classified as likely to have planned their pregnancies (i.e., there were zero cases in which women had planned their pregnancies and *not* attended ANC), this raised the

issue of quasi-complete separation involving this key variable, meaning that a maximum likelihood estimate for it did not exist (Webb *et al.*, 2004). The analysis was carried out using SPSS. The data were filtered and re-coded before the analysis was conducted. Independent variables such as age, marital status and parity were collapsed and broader categories created to avoid categories with few observations.

Table 5.3 presents the results from multivariate logistic regression of women's socio-demographic characteristics as predictors of ANC attendance. In the first instance, unadjusted odds ratios were computed to examine the association between each socio-demographic characteristic individually and ANC attendance. Then multivariate logistic regression was performed.

In model 1 the socio-demographic variables (all assumed, based on the literature, to be useful in predicting utilization of ANC) were simultaneously analysed in a full logistic regression model. Three characteristics were found to be significantly associated with non-attendance of ANC when other variables were controlled for, negative HIV status, a woman having primary as opposed to secondary or higher education (a lower adjusted odds ratio for uneducated women was not statistically significant) and rural residence. A (backward) stepwise logistic regression was subsequently conducted to examine the relationship further, eliminating non-significant socio-demographic characteristics – model 3. As this model included only two of the three independent variables statistically significant in model 1 a further, intermediate, model was also generated in which all three of these variables were included (model 2). For each of the three models the log likelihood statistic is shown in the table; the numerically large estimates reveal that the three models are all statistically robust (Pallant, 2010).

Table 5.3: Unadjusted and adjusted odds ratios and confidence intervals for women's socio-demographic characteristics as determinants of ANC attendance

Characteristic	Attended ANC? (Yes/No)	Relative odds of ANC attendance: Unadjusted OR	Adjusted OR (95% CI)*		
	n=902/40	95% CI	Model 1	Model 2	Model 3
Age					
15-19 years	214/8	1.00	1.00		
20-24 years	279/8	0.84 (0.29 2.47)	0.65 (0.19 2.18)		
25-29 years	195/12	0.69 (0.23 2.06)	0.54 (0.15 1.96)		
30+ years	210/10	0.60 (0.21 1.75)	0.64 (0.14 3.01)		
Parity					
0-1	546/22	1.00	1.00		
2-3	249/12	0.84 (0.41 1.72)	1.52 (0.55 4.18)		
4 or more	107/6	0.72 (0.28 1.81)	0.79 (0.20 3.23)		
Marital status					
Not married	821/37	1.00	1.00		
Married	66/3	0.99 (0.30 3.30)	1.28 (0.29 5.74)		
HIV status					
Positive	356/10	1.00	1.00	1.00	1.00
Negative	544/27	0.57 (0.27 1.18)	0.32 (0.14 0.76)[b]	0.31 (0.13 0.74)[b]	0.30 (0.13 0.70)[b]
Education level					
Secondary/ more	689/19	1.00	1.00	1.00	1.00
Primary	148/15	0.27 (0.14 0.55)[c]	0.19 (0.09 0.41)[c]	0.20 (0.09 0.44)[c]	0.19 (0.09 0.40)[c]
No education	37/4	0.26 (0.080.79)[a]	0.36 (0.08 1.70)	0.39 (0.08 1.76)	0.42 (0.09 1.92)
Religion					
None	453/21	1.00	1.00		
African independent	297/13	1.06 (0.52 2.15)	1.66 (0.70 3.91)		
Other Christian	151/6	1.17 (0.46 2.94)	1.00 (0.36 2.60)		
Employment status					
Working	257/15	1.00	1.00		
Not working	640/25	1.49 (0.78 2.88)	1.49 (0.68 3.28)		
Rural/Urban residence					
Rural	507/29	1.00	1.00	1.00	
Urban	391/10	2.24 (1.08 4.64)[a]	2.26 (1.01 5.05)[a]	2.07 (0.94 4.56)	
-2 Log likelihood			**253.783**[b]	**258.300**[c]	**274.420**[c]

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

*Adjusted odds ratios derived from logistic regression relating all listed characteristics to ANC use: three models are shown and for each of the variables included the odds ratios are mutually adjusted for the influences of each other.

Note: [a]=p-value <0.05; [b]=p-value <0.01; [c]=p-value <0.001

The multivariate logistic regression results (Table 5.3) indicate that the rural-urban residence differential in the odds of attending ANC weakened and lost statistical significance in model 2, leading to the variable being omitted from model 3. It had only marginally been statistically significant in model 1 (lower confidence limit 1.01), and its failure to attain significance in model 2 was also fairly marginal (p-value = 0.07). Negative HIV status and having only a primary education remained statistically significant determinants of ANC non-attendance at the same levels (p-value <0.01 and p-value <0.001, respectively) in both model 2 and model 3. Having no education at all, a relatively uncommon status, remained non-significant in both models.

5.3.1 Rural/urban residence

As one of the factors that can act as a proxy for healthcare utilization, rural-urban residence can either be a barrier or an enabler with regards to women accessing health services. In this study of women who delivered or presented at PPH, the unadjusted odds of attending ANC were 2.24 times higher among women residing in an urban area than among those residing in a rural area. Although marginally retaining statistical significance when controlling for other variables in model 1, significance was lost in model 2 (again quite marginally). Nevertheless, rural-urban residence remains a potentially important factor in predicting women's attendance or non-attendance of ANC. In their study based on the 1996 Botswana Family Health Survey, Letamo and Rakgoasi (2003) found that rural residence displayed strong significant effects on non-use of maternal services such as ANC. They found that the odds of not attending ANC were 2.69 times higher for women living in rural villages and 1.84 times higher for those living in urban villages than for those living in 'towns', after controlling for education, socio-economic status, marital status, parity and age, p-value <0.01 in both

cases (Letamo and Rakgoasi, 2003).

It is reasonable to conclude that investments that continue to be made in expanding health services in Botswana may be closing the gap between rural women and urban women with regard to access to health services and facilities. Since 1996 when the data Letamo and Rakgoasi analysed were collected, Botswana has made considerable investments in primary health care infrastructure as well as in the district health system across the country. For instance, public health expenditure as a percentage of government expenditure grew from 5.7 percent in 1998 to 10.5 percent by 2002 and 18.0 percent in 2007, before falling again to 8.7 percent in 2012 (World Bank, 2012b). Over the period 1974-2006, development in health infrastructure saw the total number of health facilities grow from 266 to 639, excluding 860 mobile stops (of which there were only 341 in 1980) (Campbell *et al.*, 2012). Currently it is estimated that 84 percent of Botswana's population, and 90 percent of Palapye residents, live within 5 km of the nearest health facility (Central Statistics Office, 2007). Only 10 percent of Palapye residents are estimated to be within 5-8 kms of the nearest health facility (Central Statistics Office, 2007).

5.3.2 HIV status

It is common for researchers to conduct a multivariate analysis only using those independent variables that showed significant associations in bivariate analysis. This practice has been seen by others as risky, because some variables not significant in bivariate analysis may become significant in multivariate analysis (Lo *et al.*, 1995). This proved to be the case in this analysis of the PPH obstetric records sample. HIV status was not found to be statistically associated with ANC attendance in the bivariate

analysis, but was found to be a strong determinant of ANC utilization in the multivariate analysis, indicating that HIV-status is only significant after controlling for other variables (Table 5.3). The odds of an HIV-negative woman attending ANC were only 31 percent of the odds of an HIV-positive woman doing so after controlling for place of residence and education (Table 5.3, model 2). This suggests that having HIV (or suspecting one has it) and recognizing its potential to harm one's unborn child acts as an incentive to seek ANC. The differential established is certainly preferable to one in the opposite direction.

5.3.3 Education level

Consistent with the results of the bivariate analysis, and studies elsewhere (Govindasamy and Ramesh, 1997, Letamo and Rakgoasi, 2003, Mekonnen and Mekonnen, 2003, Ikeako *et al.*, 2006), in the PPH obstetric records sample education was a strong predictor of ANC attendance (Table 5.3). Women with a high level of education were more inclined to have attended ANC than women with less education. The odds of a woman with primary level education attending ANC were only 20 percent of the odds of a woman with secondary or more education doing so after controlling for HIV status and place of residence (p-value <0.001, model 2). It was not clear why only women with primary education had significantly lower odds of attending ANC than women with secondary or more education; notably, women with no education at all did not have significantly lower odds of using ANC.

However, one possible explanation could be the small number of women in the 'No education' group, and in particular the small number of those women (4) who had not attended ANC. An increase of just one or two women in this number could well have

yielded statistical significance. As already discussed, a common explanation given for the positive association of higher levels of education with ANC attendance is that educated women are more likely to know about health and available health services. They are also more likely than less educated or uneducated women to be independent and able to make decisions for themselves regarding attendance at MCH clinics.

5.4 Postnatal care

The postnatal period, like the prenatal period, is a very special phase in a woman's life as well as in that of her newborn baby. If the mother is new to the childbirth experience she is still learning and adjusting to her new role. This is also a dangerous period for both mother and baby, often posing fatal risks for them. Support, guidance and provision of information to help a mother recuperate as well as to help her with childcare are integral parts of this phase. As well, the postnatal period is a special time in a traditional woman's life and is usually governed by culturally imposed behavioural and nutritional practices which may clash with science-based guidelines developed by Western medicine. It is during this period that both the mother's and the newborn's wellbeing need to be promoted, with the former's body recovering and returning to a non-pregnant state and the latter needing to adjust well to its new environment.

In sub-Saharan Africa the postnatal period is associated with unsatisfactory levels of mortality, with at least 125,000 mothers and 870,000 newborns dying in the first week after birth annually (WHO, 2010). Given that, postnatal care (PNC) in this part of the world is especially important. PNC provides an opportunity for healthcare workers to give mothers crucial health information and healthcare that can potentially have long-term beneficial health outcomes.

In Botswana, PNC includes healthcare given to the mother and her newborn child from immediately after delivery through to the end of the puerperium, or 6-8 weeks after delivery, including (in policy) a home visit by a health worker within the first week after discharge (Kebalepile, 2001). The care provided aims to assess and identify needs, and give support and counselling to the mother in areas such as breastfeeding, nutrition, immunization, safer sex and future family planning. Following the fundamental elements of care given to the mother at the maternity facility prior to discharge after delivery, she is advised to come back with her baby after six weeks. It is during this return visit that healthcare workers seek to assess the mother's recovery, particularly the return of her reproductive organs to their pre-pregnancy state, as well as to give advice regarding future family planning options. The baby's health/development status is also monitored, including cord care, weight, hygiene and feeding practices, and relevant immunizations are administered. It is this post-discharge element of PNC that is the focus in this section and the following one.

According to a recent WHO technical report, research on PNC has been limited, not just in developing countries but in developed countries as well (WHO, 2010). Of particular concern has been a lack of research into the coverage and content of PNC, owing largely to persistent poor documentation of PNC services delivered. This problem of inadequate evidence affected the postnatal care component of the Palapye area study reported in this thesis. While some documentation concerning PNC was available, the data were not sufficiently complete to be able to be used to provide conclusive results regarding women's PNC utilization. However, the incomplete data obtained were still sufficiently useful to merit detailed analysis and cautious interpretation. This PNC information is included in the material reported below.

5.4.1 PNC attendance

The results of the PNC study in Palapye, Botswana are reported and analysed below. It should be noted that a detailed description of the methodology followed to obtain the data is given in Chapter 3. It is summarised here to facilitate interpretation of the PNC data. Women's demographic information from the obstetric records review, including date of birth, marital status and religion, as well as their names and places of birth, were used as unique identifiers to try and track down their PNC attendance at relevant health facilities within Palapye. PNC registers at PPH and the surrounding four public clinics were reviewed – information for women who had delivered at PPH was matched with information found in the PNC registers for women who had attended PNC. Due to the near certainty that access would be declined on the ground of patient confidentiality, no attempt was made to consult records at private clinics where some women may also have received PNC. It should be noted that private clinics may be an important source of PNC. However, there are no published estimates of the proportion of mothers in Botswana who receive PNC at private clinics.

After reviewing the PNC registers at PPH and the four clinics, PNC attendance could only be confirmed for a total of 213 women, or 23 percent of the sample of 942 who had delivered at PPH. This, however, does not justify a conclusion that 942 – 213 = 729 women did not attend PNC. As already indicated in Chapter 4, most households in Botswana maintain three homesteads, this tripartite system increasing women's mobility, especially following childbirth and discharge from a maternity hospital. Traditionally in Botswana, for the birth of her first child, a woman (whether married or not) is assisted by her mother. A woman who is married is then likely to be assisted by her mother-in-law for births of subsequent children. One's parents (whether biological,

guardians or in-laws) can be living at any of three types of locations: *masimo* (farming areas for crop production), *moraka* (cattle-post areas) or *ko gae* (their home villages). But the mother may have been living elsewhere, and would have attended ANC nearby that location if she attended it at all. Because of the traditional Botswana practice of *botsetsi* (normally a three-month seclusion following childbirth), during which women receive assistance from their mothers or mothers-in-law (*go bewa botsetsi* – being minded during seclusion), it is likely that most recently delivered women attend PNC near where they are living during that *botsetsi* period.

Given that they typically move to where their mother or mother-in-law lives rather than her moving to where they live, they may not be able to attend PNC at the same health facility they attended for ANC during pregnancy. Such a situation may require a newly delivered mother to establish contact with an unfamiliar health facility in order to receive PNC, and this *botsetsi*-created circumstance may act as a disincentive to seeking PNC, especially where no immediate medical problem for either mother or baby is apparent. The foregoing information on *botsetsi* raises questions about its influence on the coverage and impact of PNC. However, data on female mobility during *botsetsi* are not available and this is a topic urgently in need of further research because of its relevance to PNC.

The data that were gathered for the PNC component from the PPH and other clinic obstetric records, limited to 213 women as detailed above, were analysed for PNC attendance. Interpretation of these attendance data must allow for the possibility that PNC was attended elsewhere due to maternal mobility during *botsetsi*. Also, it can be assumed that women whose place of birth was Palapye were more likely to have parents

(mothers) living in Palapye, and therefore to have remained in Palapye for *botsetsi,* and for PNC. It should, however, be acknowledged that women who were married would only normally be assisted by their mothers for the first birth, while for subsequent births they would often receive care from their mothers-in-law. For such subsequent births the woman is likely to be located with her mother-in-law, and given that husbands often come from other parts of Botswana this location could well be outside Palapye. However, most women in this study were not married, and in such a circumstance they would typically receive assistance from their mothers for both first and subsequent births.

From the study sample of 942 PPH obstetric records, 342 of the women (36.3 percent) had been born in Palapye. Of these 342 women, 100 (29.2 percent) had attended PNC at PPH or one of the four Palapye public clinics (Table 5.4). Of the 600 women born elsewhere only 113 (18.8 percent) had attended PNC at PPH or a Palapye clinic. Thus, having been born in Palapye was conducive to having attended PNC in that locality. It could not, however, be established for 70.8 percent of the women who had been born in Palapye and 81.2 percent of those born elsewhere whether they had attended PNC or not. They may have attended it elsewhere or, in a small number of cases, at private clinics in Palapye.

5.4.2 PNC attendance – variation by socio-demographic characteristics

Table 5.5 shows the results of bivariate analyses that examine the association between women's socio-demographic characteristics and PNC attendance. The analysis is constrained because the 'don't know' category may have attended PNC outside of PPH and the four clinics (see discussion above in section 5.4.1 regarding maternal mobility

during *botsetsi*). Based on the data available, attendance at PNC did not seem to be significantly associated with characteristics such as age, education, marital status, parity, employment status or religion.

Table 5.4: Record-based sample of 942 delivered mothers: Attendance for PNC at Palapye Primary Hospital and Palapye public clinics by place of birth

Attended PNC?	Place of birth	
	Palapye	Other
	n=342	*n*=600
Yes	29.2	18.8
Not able to determine*	70.8	81.2
Total	100.0	100.0

Source: Postnatal Care Registers held at Palapye Primary Hospital and four Palapye clinics

*Because of mobility during the postnatal period many mothers may obtain PNC outside of the Palapye area – when there is no PNC record at a Palapye health facility attendance is indeterminate.

Slight variations in the proportions of women known to have attended PNC were nevertheless observed. For example, the probability of women attending PNC appeared to increase with education level – 17.1 percent with no formal education, 19.0 percent with only primary education and 23.7 percent with secondary or higher education (Table 5.5). Perhaps less educated women have less health knowledge to be able to appreciate the benefits of PNC services. However, there is no knowing whether less educated women were more likely to have moved from Palapye in the aftermath of giving birth and received PNC elsewhere.

The proportion of working women who were known to have attended PNC was 18.8 percent, compared to 24.1 percent of those who were not working. This difference was

Table 5.5: Record-based sample of 942 delivered mothers: PNC attendance at Palapye Primary Hospital and clinics by selected socio-demographic characteristics

Characteristics	n	Attended PNC?			
		Yes	Don't know	Total	p-value*
		n=213	*n*=729	*n*=942	
Age					
15-19 years	163	23.3	76.7	100	
20-24 years	304	22.4	77.6	100	
25-29 years	228	21.9	78.1	100	0.435
30-34 years	123	24.4	75.6	100	
35-39 years	86	16.3	83.7	100	
40+ years	32	34.4	65.6	100	
Parity					
1-0	568	22.2	77.8	100	
2-3	261	23.0	77.0	100	0.911
4 or more	113	23.9	76.1	100	
Marital status					
Single	864	22.1	77.9	100	
Married	69	26.1	73.9	100	0.217
Cohabiting	9	44.4	55.6	100	
HIV status					
Positive	366	22.4	77.6	100	0.873
Negative	571	22.9	77.1	100	
Religion					
None	474	20.3	79.7	100	
African Independent	310	24.5	75.5	100	0.236
Other Christian	157	25.5	74.5	100	
Education attainment					
None	41	17.1	82.9	100	
Primary	163	19.0	81.0	100	0.297
Secondary or more	708	23.7	76.3	100	
Employment status					
Working	272	18.8	81.2	100	0.077
Not working	665	24.1	75.9	100	
Was pregnancy likely to be planned?					
Yes	218	22.9	77.1	100	0.373
No	362	26.2	73.8	100	
Place of residence					
Rural place	536	14.6	85.4	100	<0.001
Urban place	401	33.4	66.6	100	

Source: Postnatal Care Registers held at Palapye Primary Hospital and four Palapye clinics
*Chi-square test

close to being statistically significant at the 0.05 level, but it is possible that working women disproportionately attended PNC at private clinics (see section 5.5.2). Women were more likely to have attended PNC if in cohabiting unions than if either single or

married, but so few were known to be cohabiting that this is a finding of limited importance to the interpretation of the data available.

Rural-urban residence was the main variable in bivariate analysis showing an association with known attendance at PNC. Women residing in urban areas (where place of residence was as noted in the obstetric booklet at the time of registration for ANC) were more than twice as likely to be known to have attended PNC as women residing in rural areas.

5.5 Determinants of postnatal care attendance

There is not much literature that quantifies PNC attendance in Botswana or other sub-Saharan African countries and therefore not much that documents determinants of PNC attendance (Letamo and Rakgoasi, 2003, Magadi *et al.*, 2007). It has also been observed by the WHO that "research into the current coverage and content of postpartum and postnatal care has been limited" (WHO, 2010). In this section the focus is on women's socio-demographic characteristics, even though most of these were not statistically significant in the bivariate analyses. Because of the limitations of bivariate analysis, logistic regression was conducted as it is a more statistically robust procedure providing not just the strength of associations with the dependent variable but also allowing the researcher to explore the predictive capacity of various independent variables in relation to PNC attendance.

Logistic regression allows simultaneous assessment of the independent effect on PNC attendance of multiple explanatory variables each adjusted for the influence of the others. The analysis first treated each explanatory variable separately to determine its

crude odds ratio, unadjusted for the influence of other variables (Table 5.6). Then multivariate logistic regression was performed to predict the PNC outcome for each of the socio-demographic characteristics, mutually adjusted for the influence of each other.

As with section 5.3 above, three multivariate models were generated (Table 5.6). One model contained all the explanatory variables, a second model contained the significant variables from model 1 (religion, employment and residence) and a third model contained the significant variables from model 2 (employment status and place of residence). For each model the log likelihood statistic is shown in the table; the numerically large estimates reveal that all three models are statistically robust (Pallant, 2010).

From the bivariate analysis results presented above, employment was one characteristic that was found to be approaching a statistically significant association with PNC attendance, while rural-urban residence was found to be strongly associated with attending PNC. Unadjusted odds ratios presented in Table 5.6 show only rural-urban residence as a statistically significant predictor of PNC attendance, but again, employment status is close to being statistically significant (p-value = 0.08). The three multivariate models show the net effects of each of the socio-demographic characteristics when considered simultaneously (model 1), when variables not significant in model 1 are discarded (model 2) and when religion, which loses significance in model 2, is also discarded (model 3).

Table 5.6: Unadjusted and adjusted odds ratios and confidence intervals for women's socio-demographic characteristics as determinants of known PNC attendance

Characteristics	Attended PNC? Yes/Don't know*	Relative odds of PNC attendance: Unadjusted OR (95% CI)	Adjusted OR (95% CI)		
	(n=213/729)		Model 1	Model 2	Model 3
Age					
15-19 years	53/169	1.00	1.00		
20-24 years	60/227	0.95 (0.60 1.49)	0.86 (0.52 1.41)		
25-29 years	47/160	0.92 (0.57 1.49)	0.97 (0.55 1.71)		
30+ years	51/169	0.97 (0.61 1.56)	0.94 (0.48 1.85)		
Parity					
0-1	126/442	1.00	1.00		
2-3	60/201	1.05 (0.74 1.49)	0.96 (0.61 1.50)		
4 or more	27/86	1.10 (0.69 1.77)	1.00 (0.50 1.99)		
Marital status					
Single	192/666	1.00	1.00		
Married	18/51	1.22 (0.70 2.15)	0.83 (0.43 1.59)		
HIV status					
Positive	82/284	1.00	1.00		
Negative	131/440	1.03 (0.75 1.41)	1.00 (0.71 1.42)		
Religion					
None	96/378	1.00	1.00	1.00	
African Independent	76/234	1.28 (0.91 1.80)	1.46 (1.01 2.13)[a]	1.43 (0.99 2.07)	
Other Christian	40/117	1.35 (0.88 2.10)	1.13 (0.71 1.78)	1.13 (0.72 1.77)	
Education attainment					
Secondary or more	168/540	1.00	1.00		
Primary	31/132	0.66 (0.29 1.52)	0.80 (0.51 1.26)		
None	7/34	0.76 (0.49 1.16)	0.61 (0.24 1.53)		
Employment status					
Working	51/221	1.00	1.00	1.00	1.00
Not working	160/505	1.37 (0.97 1.95)	1.56 (1.05 2.32)[a]	1.51 (1.03 2.20)[a]	1.40 (0.98 2.02)
Place of residence					
Rural place	78/458	1.00	1.00	1.00	1.00
Urban place	134/267	2.95 (2.15 4.05)[b]	3.24 (2.27 4.50)[b]	3.04 (2.19 4.23)[b]	2.97 (2.16 4.09)[b]
-2 Log likelihood			879.395[b]	887.547[b]	945.191[b]

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

Note: [a]=p-value <0.05; [b]=p-value <0.001

*Don't know: PNC attendance could not be determined. Not conclusive that woman did not attend

5.5.1 Religious affiliation

Model 1 of Table 5.6 shows that the odds of having attended PNC were significantly higher for women who belonged to the African Independent church than for women who indicated they belonged to no religious group (p-value <0.05). However, after adjusting for all three independent variables that were significant in model 1, religious affiliation marginally lost significance and yielded a p-value of 0.06 in model 2. If religious affiliation does have some marginal level of importance with regard to PNC utilization, what might explain it? Traditionally, and whether this is mainly based on religious belief or simply traditional superstition is unclear, every newborn is protected (*go rwesa*) from ancestral spirits other than his or her own, or from evil spirits (*go okamiwa*), especially if the child is going to be taken to places where there are other newborns, e.g., a PNC clinic. However, among those who believe in spirits there can be concerns over whether children have 'good' protection, and this can foster an attitude that the best way to ensure their safety at places like PNC clinics is to stay away from them, especially given that PNC occurs when a newborn is still very young, and therefore considered susceptible to the evil eye. It follows that women with no religion might tend to avoid PNC, while those belonging to a religious group like the African Independent Church might have religious beliefs that give them more confidence that their children will have 'good' protection when among other children.

5.5.2 Employment status

In the multivariate analyses, women who were not working had significantly higher odds of attending PNC than women who were working in models 1 and 2 (56 percent higher in model 1, 51 percent higher in model 2; p-value <0.05 in each case), but in model 3 the 40 percent higher odds marginally failed to attain statistical significance.

Some doubt attaches to the practical importance that can be attached to these results because data were only obtained from public health facilities.

An interview with Mma Banda, one of the midwives at PPH, revealed that one of the problems in establishing a continuum of care for women during pregnancy and following delivery is the simultaneous use of private and public healthcare. Mma Banda was of the view that most working mothers elected to attend private clinics rather than public facilities following delivery. One possible reason for this was a belief that private healthcare was of a higher quality than public healthcare (Gilson *et al.*, 2005). But importantly, attending a private clinic also meant that a woman could estimate more accurately the amount of time she needed off work to attend PNC, as she was able to make an appointment instead of waiting in a queue at a public clinic. So if the data on PNC attendance had also covered attendance at private clinics the differential in attendance between women who were working and not working may have closed, and conceivably even reversed.

The majority of working women in this study worked in jobs that generally do not pay while one is on maternity leave – jobs like sales assistance, domestic work and some trades work. Such women were likely to have used up all their annual leave for maternity purposes, and may simply not have been able to afford further days off without pay. Waiting times at public MCH clinics, which see women in order of arrival and do not make appointments, often mean that women do not get back to their jobs until after midday, at which point some employers may ask them to just take the whole day off. Some women may even risk losing their jobs altogether – especially those working as shop assistants.

5.5.3 Rural-urban residence

As in other studies (Letamo and Rakgoasi, 2003, Gabrysch and Campbell, 2009, McTavish *et al.*, 2010), the rural-urban divide in this study was found to be a strong predictor of PNC attendance, with women residing in urban areas significantly more likely to have attended than women living in rural areas. Table 5.6 shows that for women residing in urban areas the unadjusted odds of attending PNC were 2.95 times the odds of attending for women living in rural areas (p-value <0.001). The adjusted odds of attending PNC for urban-resident women in multivariate models 1, 2 and 3 were respectively 3.24, 3.04 and 2.97 times the odds for rural-resident women (p-value <0.001 in all three cases). This perhaps goes to show that efforts made to ensure an equitable distribution of health resources between rural and urban areas are still lacking.

In one of the in-depth interviews with a recently delivered woman, Olorato, a 32 year-old mother of three, revealed that she had registered for ANC when she was over five months pregnant. This was because when she had gone to the local health post for the first time (when three months pregnant) the midwife was not available. She was asked to return the following Tuesday, but she had been scheduled to be back at work then from leave. Such experiences, and even friends' accounts of them, can discourage women from attending PNC if they cannot be certain there will be staff available to attend them when they present at a rural clinic or health post.

While it is estimated that 95 percent of Botswana's population lives within reasonable distance (8km) of the nearest health facility, most rural communities still face a number of challenges in reaching one. These challenges include lack of transportation and unpleasant weather conditions. While women in urban areas and some in rural areas

may be in a position to afford taxi fares, rural areas often do not have taxis, so women must rely on family and friends with transport for assistance. Travelling by foot carrying an infant in hot, cold or rainy conditions may make even the shortest distance 'still too far to walk'. And if one's own or a friend's previous experience creates doubt over whether health staff will be available if one does manage to get to a small rural facility, the disincentive to even try is obvious.

5.6 Discussion

The proportion of women who attended at least one ANC consultation in the current study was slightly higher than the most recent available national indicator – 95.8 percent in the current study compared to 94 percent nationally in 2007. Coverage indicators relating to PNC in Botswana are hard to come by; in fact no figures could be obtained from the World Bank database, WHO Health Service Coverage statistics or UNICEF statistics and monitoring. Consistent with studies conducted in various developing countries, including Botswana (Letamo and Rakgoasi, 2003, Mrisho *et al.*, 2009, Wang *et al.*, 2011, Singh *et al.*, 2012), known PNC utilization among women delivered at PPH was very low – only about 23 percent of the total obstetric records sample and 29 percent of the component who were Palapye-born. Women who were born in Palapye were likely to have spent their period of *botsetsi* in Palapye (considering that many women in the current study were not married and therefore would not be assisted by the paternal grandmother for any of their births), which meant they would be expected to have attended PNC in Palapye if they attended at all.

Data presented and analysed in this chapter do not cover each of the various components of either ANC or PNC (see Chapter 1, section 1.2.8 for a description of the

components of ANC and PNC in Botswana) but are mainly concerned with levels of ANC and PNC service use among women, and seeking to characterize women who use and do not use those services. After tabulating the proportions of women who had attended ANC and PNC, the chapter examined whether women with certain characteristics tended to use or not use these services more than other women. The data analysed focused primarily on women's socio-demographic characteristics, including age, parity, marital status, education, employment, HIV status and religion, as well as on rural or urban place of residence. As already indicated in section 5.2.1, published research on maternal socio-demographic factors associated with the utilization of MCH services, especially in developing countries, is abundant (Adekunle and Nylander, 1990, Govindasamy and Ramesh, 1997, Addai, 2000, Magadi *et al.*, 2000a, Letamo and Rakgoasi, 2003, Mekonnen and Mekonnen, 2003, Pretorius and Greeff, 2004, Seiber *et al.*, 2005, Ikeako *et al.*, 2006, Onah *et al.*, 2006, Gage, 2007, Magadi *et al.*, 2007, Mpembeni *et al.*, 2007, Say and Raine, 2007, Simkhada *et al.*, 2007, Tawiah, 2007, Haggaz *et al.*, 2008, Lubbock and Stephenson, 2008, Babalola and Fatusi, 2009, Birungi *et al.*, 2009, Ochako *et al.*, 2011, Sagna and Sunil, 2012, Singh *et al.*, 2012). These studies have shown that women's socio-demographic characteristics play a critical role is determining their health-seeking behaviour.

While some socio-demographic characteristics, such as education, planned pregnancy and HIV status, were found to be statistically significant predictors of ANC attendance, it remains worth emphasising that there was near-universal attendance of ANC across the study sample (95.8 percent). This means that one can hardly expect major differences in attendance across socio-demographic categories, limiting capacity to characterize women who choose to attend or not attend ANC by their socio-

demographic characteristics. In preceding sections it has been noted that ANC contributes to improved MCH outcomes. So the near-universal ANC coverage in Botswana does beg the question, why have the maternal mortality ratio and under-5 mortality not improved to levels that reflect this high level of ANC attendance and therefore access to the acclaimed HIV/AIDS programs that have the capacity to prolong women's and children's lives? The chapter that follows seeks to explore ANC attendance among the study sample further, in the hope that more answers can be found.

Rural as opposed to urban residence was found to be moderately associated with non-use of ANC and strongly associated with non-use of PNC, as observed in other studies. These findings cast doubt over the effectiveness of efforts made by Botswana's government to distribute health resources and services equitably. While 84 percent of Botswana's population lives within 5km of the nearest health facility, those living in rural places still travel from afar compared to those living in urban areas. The proportion of people who reside within 5km of a health facility in urban areas is 96 percent. The corresponding proportion in rural areas is 72 percent; in these rural areas 17 percent of people live 5-8 km from a health facility and 11 percent 8-15 km from a health facility. Note that in urban areas nobody lives further than 8 km away from a health facility (Central Statistics Office, 2007). Women's education exhibited a strong positive influence on ANC attendance, as has been noted in other studies (Ikeako *et al.*, 2006, Tawiah, 2007). But contrary to these studies, in the Palapye data education was not found to be significantly associated with PNC attendance. This highlights the point that maternal and child health problems are not just simple matters of maternal literacy or health education. They are perhaps more reflections of the challenges women face across their life spans and in given life situations.

Take, for instance, the situation regarding the employment of women. In this study employment status was found to be a statistically significant predictor of PNC attendance in two multivariate models and close to significant in a third, where being employed gave rise to limited PNC attendance – PNC possibly representing opportunity costs (loss of wages) for working women. Because many women in this study were single they relied on one income, and if their employer did not provide paid maternity leave, as is common in many of the jobs held by women (such as sales or shop assistant), they were forced to return to work soon after *botsetsi* (which at times may have been shorter than three months) and may not have been able to afford to have any more days off to attend PNC. That said, it has to be acknowledged that if employed women were, as has been suggested, especially likely to seek PNC from private providers, whose clienteles were not canvassed in this study, the differential established here between working and non-working women could be, in whole or in part, spurious.

Overall, the findings and commentaries presented in this chapter support the argument on the importance of considering country-context when examining women's health-seeking behaviour (Say and Raine, 2007). In a systematic review of inequalities in the use of maternal health care in developing countries, Say and Raine (2007) concluded that one of the factors that has contributed to the limited success of the World Bank/WHO/UNFPA-sponsored Safe Motherhood Initiative is "the lack of rigorous analysis of the data available on the variations in use, together with an inadequate grasp of the contextual issues that must be addressed". The argument advanced is simply that women's socio-demographic characteristics interact in different ways in different settings with other social constructs to determine women's use or non-use of health services. This is why different levels of utilization of health services have

been observed among women both within and across countries, even when external conditions seem superficially similar. For instance, differences in health service utilization have been observed among women of different ethnic backgrounds, among whom other socio-demographic factors may be similar (Magadi *et al.*, 2000b, Alderliesten *et al.*, 2007, Gross *et al.*, 2012, Pell *et al.*, 2013).

That this chapter has presented some different findings compared to other studies is not uncommon. Differences in study designs and methods of analysis may well have contributed to these differences compared to other studies addressing the same research issues. But most important to consider is the possibility that variations in findings between studies may also be due to context-specific factors, many of which operate at the level of individual women. Homogeneity of health-seeking behaviour among unique women cannot be assumed, even if most of their external circumstances are superficially similar. Some of these context-specific factors can only be unearthed by talking with individual women, an approach that has been employed in this study and will be pursued particularly in Chapter 7.

CHAPTER 6

PATTERNS OF SERVICE UTILIZATION AND PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV UPTAKE AND RETENTION

6.1 Introduction

In order to better understand the high level of ANC coverage in Palapye, Botswana and the extent to which this indicator can contribute to good health outcomes for women and children, this chapter explores patterns of ANC attendance. Data presented focus on the timing of initiation of ANC and the frequency of ANC attendance in the context of the prevention of mother-to-child transmission of HIV (PMTCT) program – looking at uptake by HIV-positive women and retention in the program.

The timing of the commencement of ANC and the frequency of ANC attendance are crucial for the identification and mitigation of risk factors in pregnancy. Most importantly, these two dimensions of ANC utilization have major implications for the PMTCT program. The timing of first ANC consultation and frequency of attendance can impact upon the quality of the pregnancy management and HIV treatment and care that mother/child pairs receive. Research has shown that most women who are HIV-positive in Botswana are frequently very sick due to opportunistic infections which should ideally be treated during ANC consultations (Ozawa and Sripad, 2013). This renders the management of their pregnancies as well as of their HIV/AIDS disease progression complex, therefore requiring comprehensive medical care.

In this chapter, data presented will show the proportions of women who first attended ANC on-time, slightly late, late and very late, and will characterize these groups of women. The proportions of women who enrolled in the PMTCT program, and of those

women the proportions lost to follow up and not lost to follow up, will also be presented, and these groups of women, too, will be characterized. Data from in-depth interviews with recently delivered women are also presented where appropriate to provide support for, and more understanding of, the findings from the women's obstetric records and related maternal and child health registers.

The concept of loss-to-follow-up has been defined differently by different studies, as well as operationally within country programs (see Chapter 1 section 1.2.8.2). Variations occur mainly in the time interval following the most recent ANC visit with no subsequent visit that is used to determine loss-to-follow-up, while lateness for an appointment scheduled in accordance with that time interval (failing to present on the day of the next scheduled visit) has been the commonly used descriptor. At the time of conducting fieldwork for the present study, Botswana did not have an official definition of loss-to-follow-up in the PMTCT program. The definition of loss-to-follow-up used in this thesis was thus derived from a study conducted by Chi *et al* (2010). They undertook empirical research, the aim of which was to develop a standardised definition based on what appeared to them to be the best performing threshold for loss-to-follow-up. In line with their recommendation, the current study adopted a threshold of failing to make a next ANC visit within 60 days (two months) to define having been lost-to-follow-up.

Women's poor adherence to the expectations of the PMTCT program (defaulting) was not measured at the level of daily medication intake, which would require women to recall their daily medication intakes and generally views adherence as largely patient-driven when in fact adherence to medication regimens can be influenced by external factors beyond the individual's control. The obstetric record review only allowed

adherence to be measured at specific stages of the PMTCT protocol which were facility-based – those offered at a point of care and carrying expectations that certain medical notations would be included in a woman's obstetric booklet. The critical elements that were focused on were initiation of AZT at 28 weeks for HIV-positive women not already on ART, and ingestion of AZT during labour and delivery for all HIV-positive women delivering at the hospital. The assumption made is that if these elements were not documented as having occurred in a woman's obstetric record they did not occur, although the possibility cannot be discounted that in some instances elements occurred but were not recorded as having done so.

Women who initially tested HIV-negative and were expected to re-test at 36 weeks gestation were also taken into consideration, although assessing these women as good or poor adherers was somewhat problematic. It was problematic because in conversation with healthcare providers and women, and through review of PMTCT registers, it emerged that there was no clear way for HIV-negative women to be systematically enrolled in the PMTCT program. Based on the PMTCT guidelines/protocol, women who test for HIV while attending ANC should essentially *all* be enrolled in the program. Those who test positive then go on to be given treatment and drugs to prevent vertical HIV transmission. Those who test negative (provided they test early enough in pregnancy to allow at least three months before they reach 36 weeks gestation) are recommended to re-test at 36 weeks to guard against initial false negative tests due to seroconversion not yet having occurred. However, it seems that, operationally, only women who test and receive positive results are formally enrolled (by way of entry into the PMTCT register) in the PMTCT program.

A woman not on lifelong ART who had initiated ANC attendance no later than 28 weeks gestation was considered to have not defaulted (i.e., to have exhibited good adherence) if there was an indication that she had received both interventions – initiation of AZT at 28 weeks gestation and ingestion of AZT during labour/delivery. Women who had initiated ANC attendance later than 28 weeks were considered to have not defaulted if they received AZT at labour/delivery. Those on lifelong ART were deemed good adherers if they ingested AZT during labour and delivery, as per the PMTCT protocol. While this approach is limited in that adherence in HIV programs is normally considered 'good' only when a patient has 95 percent or more adherence, including on daily medication intake, it was deemed appropriate for this study. One impetus justifying such a focus was an observation made by World Health Organisation researchers (WHO, 2003:XIV) that:

> Despite evidence to the contrary, there continues to be a tendency to focus on patient-related factors as the causes for problems with adherence, to the relative neglect of provider and health system-related determinants. These latter factors which make up the health environment in which patients receive care have a major effect on adherence.

This thesis was conceived on the premise that adherence to treatment and prevention plans requires cooperation between women and healthcare providers or the health system in general. In other words it requires timely and adequate responsiveness to women's expressed and unexpressed demand for available healthcare. By focusing on the stages listed above, it was possible to examine both the women's and the healthcare providers' contributions to the adherence phenomenon. It is an approach that does not solely focus on women to determine issues with adherence, but also takes into consideration other contributors such as healthcare providers and health system responsiveness.

This chapter therefore focuses on the timing and frequency of ANC attendance, as well as on enrolment and retention in the PMTCT program to the extent that data collected were able to inform on adherence. By exploring the data in this manner the chapter seeks to make a case that in order to respond adequately to women's and children's health issues, especially in the context of HIV/AIDS, the focus must extend beyond mere service coverage as the indicator of access to healthcare and a measure of health outcomes. This is particularly so when bearing in mind that in examining health service use, researchers are studying people who have self-determination and exist within social structures that may constrain optimal use of those services (Kinney *et al.*, 2010b).

In order for levels of service coverage to warrant confidence that improved health outcomes will be achieved, it needs to be established that the quality-gap in healthcare provision is acceptably low. In management, a quality-gap is defined as the difference between a desired quality of outcome and the actual quality of outcome attained. Kinney *et al.* (2010b:6) defined the quality-gap in maternal and child health services (MCH) as "the difference between coverage of the basic package and provision of effective … care". When women attend an antenatal clinic, it is desirable that they and their unborn children receive all the essential and potentially lifesaving interventions planned within a particular program. For this to happen their service utilization pattern is likely to be a key determining factor. A single ANC visit, for example, may not have the same lifesaving potential as four ANC visits. However, it is mainly the manner in which the components of ANC (the interventions) are offered to women and the way in which women receive and either accept or reject them that determines their effectiveness, and therefore the quality of the MCH program in the long run.

6.2 The PMTCT program

In 1999 the government of Botswana began a pilot project in the country's two largest cities, Francistown and Gaborone, aimed at preventing transmission of the HIV virus from a mother to her child. National roll-out of the project began in July 2000, and by November 2001 the PMTCT program had been introduced across the country's public health facilities to in theory reach every pregnant *Motswana* woman, unborn child and newborn baby. Commentaries and empirical research proclaiming the PMTCT program in Botswana to be the best and most comprehensive model in sub-Saharan Africa abound (Grunwald, 2002, Korte *et al.*, 2004, Shapiro *et al.*, 2005a, Lockman *et al.*, 2007, Creek *et al.*, 2008, Gaolathe *et al.*, 2008, Seipone, 2008, Chen *et al.*, 2010, UNAIDS and NACA, 2010, Dryden-Peterson *et al.*, 2011, Ministry of Health, 2011a, Powis *et al.*, 2011, Avert, 2013). See Chapter 1 for a discussion of Botswana's PMTCT program.

While program evaluations and other studies have indicated high uptake of the PMTCT program by pregnant women in Botswana (Shapiro *et al.*, 2005a, Creek *et al.*, 2007, Gaolathe *et al.*, 2008, Baek *et al.*, 2009), little is known about the levels of adherence to and retention in the program. Researchers and healthcare workers in paediatric medicine and HIV/AIDS in Botswana point out and accept that there is both loss-to-follow-up of woman/child pairs and defaulting (or poor adherence) on program treatment expectations (Jibril, 2008, Baek *et al.*, 2009). However, research showing rates of patient loss-to-follow-up and adherence in the PMTCT program remains limited. Only one study on adherence to short course antiretroviral prophylaxis for PMTCT conducted in Francistown has been found (Baek *et al.*, 2009). It concluded that "[self-]reported adherence to AZT for PMTCT was generally good, but 30-40% of women missed some

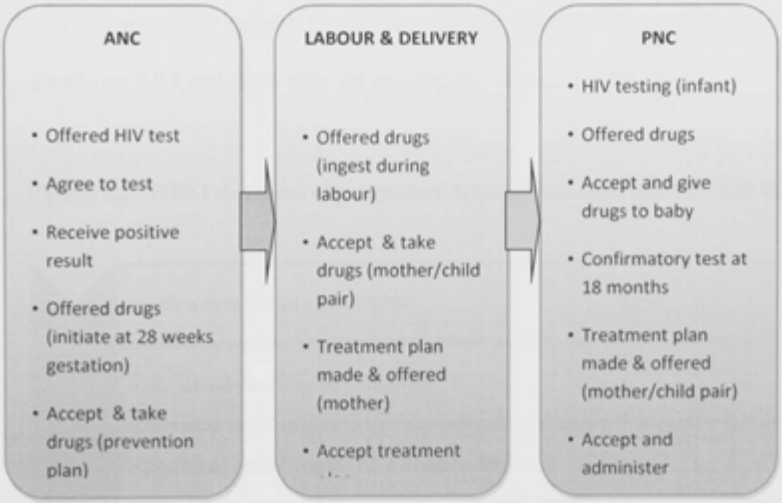
doses during their pregnancies" (Baek *et al.*, 2009:3). The study does not report on rates of loss-to-follow-up, but interestingly does discuss the issue of following up women enrolled in the program. Discussing provider-perceived barriers to PMTCT and the issue of follow up, it reports that providers interviewed expressed the view that "it is not their duty to follow up [women], that women are too difficult to follow up and that they trust that the women are adhering properly" (Baek *et al.*, 2009:32).

Elsewhere in southern Africa (e.g., Malawi, Zimbabwe and South Africa) studies have indicated problems in the PMTCT programs, with cumulative rates of loss-to-follow-up in the range of 19 to 55 percent reported (Manzi *et al.*, 2005, Kurewa *et al.*, 2007, Bwirire *et al.*, 2008, Chetty *et al.*, 2012). Research undertaken on adherence to and attrition in the HIV/AIDS program in Botswana has focused largely on lifelong anti-retroviral therapy (ART) rather than on PMTCT (Bisson *et al.*, 2007, Bussmann *et al.*, 2008). Bussmann *et al.* measured adherence using frequency of medication refill visits at pharmacies and found that the mean overall monthly pharmacy refill rate was 92.5 percent, while 73.7 percent of all patients had missed zero or one refill visit. Bisson and colleagues, on the other hand, found that from a sample of 410 patients, 91 (22 percent) had been lost-to-follow-up. Of those lost-to-follow-up, 76 percent were actually dead, while only 24 percent (i.e., five percent of the original sample) had been otherwise lost-to-follow-up. Loss-to-follow-up through death is not an issue in this study, as women were only studied if they survived to deliver their babies and no attention is paid to the postnatal component of PMTCT.

6.3 PMTCT uptake and retention

In analysing the data on utilization of the PMTCT program by pregnant women who delivered or presented at PPH, focus was placed on the PMTCT program pathways (Figure 6.1). Conducting the analysis in a fashion that follows the PMTCT pathways should help expose the stages at which defaulting/poor adherence and loss-to-follow-up issues may be most concentrated.

Figure 6.1: Pregnant women's pathways through the PMTCT program



Source: Adapted from the Botswana 2009 PMTCT prophylaxis/treatment algorithm

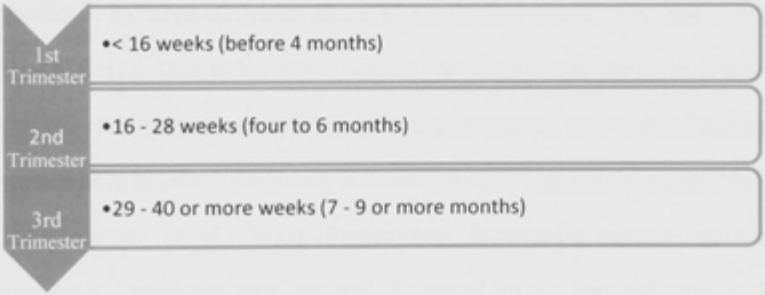
6.3.1 Timing of first ANC consultation

ANC attendance is very important in the context of a high HIV/AIDS prevalence, as it has the potential to protect and improve a woman's health and that of her child. What is also important is the timing of the first ANC consultation. While in one sense it may never be too late for a pregnant woman to attend ANC before giving birth, making the first ANC visit early in pregnancy – within the recommended first four months of

pregnancy – maximises the potential benefit for both mother and child that can be derived from various interventions offered under MCH services. The WHO recommends that the first ANC visit should ideally occur before 12 weeks, and certainly no later than 16 weeks (Figure 6.2).

HIV-infected women who become pregnant require increased contact with healthcare providers, who are then able to help them fully understand the complexities involved in pregnancy in the context of HIV infection, especially the risks and benefits associated with different ART options. In addition, clinical care of HIV-infected pregnant women already on ART and those who are not already on it are not the same.

Figure 6.2: WHO duration of pregnancy (gestational age) expressed in three ways



Source: (WHO, 2006a)

Both groups, however, require a range of screening tests to ensure that the best treatment option is planned and administered. Most critically, the whole process of managing an HIV-positive pregnant woman requires synergy of efforts among healthcare providers – patients benefit most when this process is seamless and there is a culture of efficiency and teamwork. Not much teamwork in managing patient care in

Botswana and sub-Saharan Africa more broadly has been asserted in literature consulted for this study. If a woman comes late to ANC (after the first trimester) it means that screening for such things as liver function, CD4 counts, adherence counselling and other pregnancy and HIV/AIDS risk assessments have to be fast-tracked. In a health system that already has other operational challenges, fast-tracking patient care only exacerbates those challenges, besides hindering therapeutic patient-provider relationships and therefore compromising patient care.

In addition, while it is generally agreed that "unless active labour has started, there is no stage of pregnancy that is too late to begin ART" (Ministry of Health, 2012:68), placing HIV-infected pregnant women on appropriate ART at recommended gestational ages is highly desirable. For instance, HIV-positive women who are on Efavirenz (EFV) and are recommended to switch to Nevirapine (NVP) or Aluvia (ALU) during pregnancy should on the latest advice do so during the first 14 weeks of pregnancy (Ministry of Health, 2012). Also, HIV-positive women who initiate ANC early are able to use triple antiretro-viral prophylaxis (TAP) on an extended basis, and studies have shown such women have improved pregnancy outcomes and less maternal mortality (Marazzi *et al.*, 2011, Shapiro *et al.*, 2012). Furthermore, Botswana's recently revised PMTCT guidelines, introduced since the period covered by the data gathered for this thesis (2005-2010), recommend that "all HIV-positive women who do not meet the criteria for lifelong ART should be initiated on triple antiretro-viral therapy" before 14 weeks gestational age (Ministry of Health, 2012:69).

In this study women who came for their first ANC consultation in their first trimester, that is before 16 weeks of gestational age, were categorised as 'on-time' attendees – that

is, they attended in accordance with the WHO recommendation for first ANC consultation (WHO, 2007). Women who had their first consultation in the second trimester were categorised as 'slightly late' (16-20 weeks gestation) or 'late' (21-28 weeks gestation) attendees, while those who first presented in their third trimester were categorised as 'very late' attendees (Table 6.1). To register for ANC women do not have to make an appointment; they simply present at an MCH unit/clinic and wait their turn to be seen. There are several operational issues that need to be addressed with regard to this practice, including women being required to present very early in the morning at MCH units to secure a place in a queue, and not later in the day (see Chapter 7).

Among the 902 women who had attended ANC and whose obstetric records were reviewed, only 15.2 percent had had a first ANC consultation within the first trimester of their pregnancy as recommended by WHO. The proportions of women who delayed their first ANC consultation to their second and third trimester were 70.4 percent and 14.4 percent respectively. Of the 70.4 percent, 30.0 percent were slightly late and 40.4 percent were late initiating ANC, as defined above. Overall, women had had first ANC consultations at a mean gestational age of 22.2 weeks, with a median of 21.5 weeks.

Table 6.1 shows associations between women's socio-demographic characteristics and timing of first ANC consultation. A p-value of <0.05 was taken to indicate statistical significance. While no statistically significant associations between timing of first ANC visit and women's socio-demographic characteristics are evident, three characteristics only marginally failed to attain significance. These were woman's HIV status with a p-value of 0.08, and woman's religious affiliation and education level, each with a p-value of 0.07.

Table 6.1: Percentage distributions by timing of first ANC consultation, by selected socio-demographic characteristics

Characteristic	n	Gestational age in weeks at first ANC visit					
		<16	16-20	21-28	29+	Total	p-value*
Age							
15-19	*158*	17.1	32.3	38.6	12.0	100.0	0.522
20-24	*293*	15.0	28.7	42.7	13.7	100.1	
25-29	*218*	15.1	29.4	40.8	14.7	100.0	
30-34	*119*	13.4	35.3	32.8	18.5	100.0	
35-39	*79*	11.4	24.1	45.6	19.0	100.1	
40+	*31*	22.6	35.5	38.7	3.2	100.0	
Parity							
0-1	*546*	16.7	28.2	40.5	14.7	100.1	0.344
2-3	*249*	12.4	33.7	41.8	12.0	100.0	
4or more	*107*	14.0	30.8	36.4	18.7	100.0	
Marital Status							
Single	*821*	14.5	30.5	40.2	14.9	100.1	0.225
Married	*66*	22.7	27.3	40.9	9.1	100.0	
Education attainment							
None	*37*	8.1	37.8	37.8	16.2	100.0	0.067
Primary	*148*	8.8	26.4	46.6	18.2	100.0	
Secondary or more	*689*	16.8	30.8	38.8	13.6	100.0	
Religion							
None	*453*	15.0	25.6	42.6	16.8	100.0	0.071
African Independent	*297*	14.5	34.0	38.4	13.1	100.0	
Other Christian	*151*	17.2	35.1	37.7	9.9	100.0	
Employment status							
Not working	*640*	15.2	31.3	39.8	13.8	100.0	0.594
Working	*257*	15.6	27.2	40.9	16.3	100.0	
Was pregnancy likely to be planned?							
Yes	*218*	18.3	33.9	36.7	11.0	99.9	0.213
No	*390*	14.9	28.7	42.1	14.4	100.1	
Place of residence							
Rural	*507*	14.4	30.0	41.6	14.0	100.0	0.752
Urban	*391*	16.1	30.4	38.4	15.1	100.0	
HIV status							
Positive	*356*	15.7	27.2	44.9	12.1	100.0	0.075
Negative	*544*	14.9	32.0	37.3	15.8	100.0	

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

Women with secondary or more education were twice as likely to have had their first ANC consultation on-time as those with primary education or less, and were the least likely to have left their first visit until very late in pregnancy. Also, women who were

HIV-positive were more likely to have made their first ANC visit on-time and less likely to have made it very late in pregnancy, compared to HIV-negative women. Notably, however, a high proportion of HIV-positive women had presented late (i.e., at 21-28 weeks gestational age) for ANC. Women with no religion were in particular less likely to have been slightly late and more likely to have been late or very late in having their first ANC consultation compared to women affiliated with the African Independent church and with other Christian churches.

To explore further variations in the timing of first ANC consultation (as measured by mean gestational age at first consultation) among women with different socio-demographic characteristics, one-way between groups analysis of variance (ANOVA) was used. The results, presented in Table 6.2, show pregnant women's mean timing of first ANC consultation by various socio-demographic characteristics. Many of the timing differences were not statistically significant, but those for age, education, religion and the likehood that the pregnancy had been planned were significant at p-value <0.05.

It is noteworthy that women's HIV status did not show a statistically significant association with timing of first ANC visit (Table 6.2). The majority of women are first tested for HIV when they come for ANC, and fear of learning their status probably causes some to delay ANC initiation. Others, on the other hand, may come as early as possible because they do want to check their status, and if necessary enrol in the PMTCT program to avoid HIV transmission to their foetuses.

Table 6.2: Pregnant women's mean gestational ages at first ANC consultation by socio-demographic factors

Characteristic	*n*	Mean gestational age (weeks)	*F*	p-value*
Age				
15-19 years	*158*	21.6		
20-24 years	*293*	22.3		
25-29 years	*218*	22.1	2.48	**0.030**
30-34 years	*119*	22.5		
35-39 years	*79*	23.7		
40+ years	*31*	19.6		
Parity				
0-1	*546*	22.2		
2-3	*249*	22.1	0.08	0.923
4 or more	*107*	22.4		
Marital status				
Not married	*821*	22.3	2.78	0.096
Married	*66*	21.0		
HIV status				
Positive	*356*	22.1	0.02	0.884
Negative	*544*	22.2		
Education				
None	*37*	22.9		
Primary	*148*	23.2	3.09	**0.046**
Secondary or more	*689*	21.9		
Religion				
None	*453*	22.7		
African Independent	*297*	21.9	4.38	**0.013**
Other Christian	*151*	21.1		
Employement				
Not employed	*640*	22.0	2.21	0.137
Employed	*257*	22.7		
Pregnancy likely to be planned?				
Yes	*218*	21.2	4.47	**0.035**
No	*390*	22.3		
Place of residence				
Rural	*507*	22.2	0.11	0.741
Urban	*391*	22.1		

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

The latter position was taken by a few in-depth interviewees when asked about the timing of their first ANC visits.

> *Nowadays we are sick indeed, so I wanted to confirm that everything was OK so that I would know what to do.* (Baratile, 23 year-old on-time attendee).

> *I was very stressed to find out that I had missed my period. In this time when there is AIDS you just can never know – especially when you live with someone and you ask him to test together with you and he refuses. So I needed to just check for myself so I could get help.* (Segomotso, 27 year-old on-time attendee)

Another informant, however, stated:

> *Mma* (Madam), *I was really worried. People say my boyfriend has HIV – he denies it though. I just did not want to be told I have it. Isn't it that at the clinic for pregnant women that is the first thing they do nowadays, everyone is tested for the virus? I was afraid.* (Segolame, 23 year-old late attendee)

Table 6.2 further shows that there was a marginally significant statistical difference in the mean gestational age at first ANC attendance for women with different educational levels. Women with primary education delayed ANC initiation longer than those with no education as well as those with secondary or more education, the mean gestational age for women with primary education being 23.2 weeks compared to 22.9 and 21.9 weeks for the other women (F=3.1, p-value <0.05).

Scholars have argued that maternal education has an influence on the use of MCH services in general as well as on the timing of first ANC visits in particular. They commonly argue that educated women have better knowledge, understanding and awareness of health problems and available health services (Govindasamy and Ramesh, 1997, Ikeako *et al.*, 2006, McTavish *et al.*, 2010, Gross *et al.*, 2012). One of the in-

depth informants in this study supported this argument when asked why she decided to initiate ANC at the time that she did. Goitseone, a 27 year-old primary school teacher in Palapye, stated:

> *Ah ah! As soon as I missed my period the first month I knew I was pregnant (isn't it that you know when you've had unprotected sex?). I went to register at the clinic so I could begin to monitor the pregnancy and receive all the health care I needed. Sometimes when you go late while you are still waiting to see if your next period will come you can have problems. So it is better to make sure you go to the clinic and they will tell you what to do when you have problems, or they give you some medications if you have some health problems that can make your pregnancy difficult.*

It is, however, not clear why in this instance women with no education had on average attended ANC earlier than women with a primary education level. One might have predicted that women with no education would have first attended ANC later than women with at least primary education.

Religion was also found to be an important demographic characteristic associated with timing of first ANC consultation. Women categorized as 'Other Christians' in Table 6.2 had their first ANC consultations significantly earlier (mean gestational age 21.1 weeks) than women of African Independent persuasion (mean gestational age 21.9 weeks) and women with no religion (mean gestational age 22.7 weeks), F=4.4, p-value <0.01 (Table 6.2). It is speculated that women in the last category would generally be more inclined to embrace traditional and superstitious beliefs surrounding pregnancy, which might cause them to delay registering for ANC. On the other hand the biblical teachings to which 'Other Christians' subscribe likely mean that they often view traditional and superstitious beliefs as negative and evil (i.e., of Satan), and of no relevance to their ANC behaviour.

It is a widely held traditional belief within Batswana society (as in other African societies) that pregnancy should stay hidden from people and does not need to be announced; that it should be left to inevitably just become apparent as the pregnancy progresses (Logan, 1985, Tautz *et al.*, 2000, Chapman, 2003, Myer and Harrison, 2003, Mathole *et al.*, 2004). Otherwise it is susceptible to witches and evil spirits who may 'steal' it. Also, pregnancy is often simply acknowledged, as opposed to being celebrated. Women are generally ambivalent about disclosing their pregnancies to others, being worried that it may be misconstrued as boasting and that in such instances those who are jealous may 'curse' the pregnancy (Chapman, 2003, Mathole *et al.*, 2004). So it is speculated that some of these social constructs, these beliefs, contribute to delays in seeking ANC as women simply wait until such time as their pregnancies begin to show (Tautz *et al.*, 2000, Myer and Harrison, 2003, Mathole *et al.*, 2004).

Portia, a 19 year old ANC late attendee with no religion who was pregnant with her first child said:

> *I was very happy when I missed my period and thought I may be pregnant, but I also had to be careful to ensure I didn't bring a bad omen over the pregnancy. My mother told me, 'You don't have to go around announcing to people that you are pregnant ... the pregnancy will show in time.'*

Women generally find themselves having one or other of two types of pregnancy – an unintended pregnancy or an intended pregnancy. An intended pregnancy means that a woman was consciously motivated to become pregnant, while except in the case of contraceptive failure an unintended pregnancy means she engaged in sexual intercourse without due care being taken to prevent pregnancy and was not planning to become pregnant. Whether or not a pregnancy was likely to have been planned was indicated in this study, for those for whom the variable was available, to be an important factor with

regard to timing of first ANC consultation. Women whose pregnancies were likely to have been planned had initiated ANC significantly earlier than women whose pregnancies were likely to have been unplanned, although the difference was relatively small, their mean gestational ages at first ANC consultation being 21.2 weeks compared to 22.3 weeks, F=4.5, p-value <0.05 (Table 6.2).

Table 6.2 further indicates that there was a significant and largely positive association between timing of first ANC visit and women's ages (F=2.5, p-value=0.03). The main exception was age group 40+, the mean gestational age otherwise, with one minor exception, increasing with increasing age. The relatively early initiation of ANC by older women could be due to the commonly held perception among *Batswana* that becoming pregnant beyond 40 years is risky, and more likely to result in the birth of an abnormal baby. This was supported by Joyce, a 43 year-old mother of four who had attended ANC on-time. She had this to say:

> *Hey, it was just a problem, indeed being pregnant when you are my age has never been good. You ask yourself if you are going to have* ngwana yo segole jaaka mopakwana *(a child who is disabled, like Down syndrome) or something like that. I just thought going to the clinic early may really help.*

6.3.2 Frequency of ANC attendance

The traditional ANC model which began in 1900 in the United States and the UK associated increased frequency of ANC visits with optimal pregnancy outcomes. This model, historically used in sub-Saharan Africa, has more recently been challenged and reviewed (Lilford and Chard, 1983, Yuster, 1995, Munjanja *et al.*, 1996, Villar *et al.*, 1998, Villar *et al.*, 2001), resulting in the current model, often referred to as Focused ANC (FANC). The FANC model has been adopted by WHO member states since 2002 (WHO *et al.*, 2002). Among some of the differences between the two models is the fact

that in the traditional ANC model the number of visits is approximately 12, excluding additional visits that may be required in individual cases (Villar, 2001). The FANC model on the other hand recommends a minimum of four visits, considers all women at risk of complications, and places more emphasis on content and quality of care as opposed to quantum of ANC visits.

The obstetric records review for the present study revealed that the minimum number of visits that women who attended ANC had made was one and the maximum number was 22, with a mean of 7.9 visits (SD 3.31) and a median of 8.0 visits. Information on the national average number of ANC visits among pregnant women in Botswana was not available to compare with current study results. This would have been worthwhile to establish, as it would have helped provide more insight into the pattern of ANC attendance in the country and what this may imply for service planning/delivery and the health system. Overall, 95.8 percent of women in the records review sample had attended at least one ANC consultation, and 85.7 percent had attended at least four consultations.

To explore variability in women's frequency of ANC visits, chi-square tests were used to determine if there were associations between women's socio-demographic characteristics and frequency of ANC attendance. Table 6.3 shows proportions of women making 1-3, 4-7 and 8 or more visits by socio-demographic characteristics. Results show age, marital status and religion to be significantly associated with frequency of ANC attendance. Women were in particular less likely to have made only 1-3 visits and more likely to have made 8 or more visits if they were aged 40 or more, supporting the idea that pregnancy in older age is perceived by them to be risky (see

Joyce's comment above). The patterning of other age differences is less clearcut. Women aged 25-29 and 35-39 were the least likely to have made 8 or more visits. Also, women were decidedly less likely to have made only 1-3 visits and more likely to have made 8 or more visits if they were married (p-value <0.05). This may say something about the role of spousal support in facilitating regular ANC attendance; it does not appear particularly related to whether or not pregnancy was planned. Women were also more likely to have made only 1-3 visits if they belonged to the African Independent church or had no religion than if they were in the 'Other Christian' category, while those with no religion were the least likely to have made 8 or more visits. Although education was not statistically significant overall, well educated women had more often made 8 or more ANC visits.

Under the focused ANC model, care provided to women is focused on the risk factors a particular woman's pregnancy poses, so frequency of ANC may or may not exceed the expected minimum four visits. However, although Botswana is supposed to be using the WHO focused model, it seems this is not quite the case in practice. This was revealed by Mma Serufeng, a midwife, who pointed out that scheduling of a woman's next visit depended largely on her gestational age, so that, for instance, late in the third trimester and close to the expected date of delivery women were usually advised to come for ANC every week. Further analysis regarding variance in frequency of ANC attendance was conducted to determine whether there was any association between the mean numbers of ANC visits made by women and their different socio-demographic characteristics.

Table 6.3: Pregnant women's frequency of ANC visits by socio-demographic characteristics

Characteristic	*n*	1-3 visits	4-7 visits	8 or more	Total	p-value*
Age						
15-19 years	*158*	8.9	36.7	54.4	100.0	
20-24 years	*291*	12.0	34.0	54.0	100.0	
25-29 years	*218*	9.2	45.0	45.9	100.0	**0.036**
30-34 years	*118*	10.2	29.7	60.2	100.0	
35-39 years	*79*	10.1	48.1	41.8	100.0	
40+ years	*31*	6.5	22.6	71.0	100.0	
Parity						
0-1	*545*	10.6	36.3	53.0	100.0	
2-3	*247*	8.9	41.7	49.4	100.0	0.555
4 or more	*107*	11.2	33.6	55.1	100.0	
Marital status						
Not married	*819*	10.6	38.6	50.8	100.0	**0.016**
Married	*65*	6.2	24.6	69.2	100.0	
HIV status						
Positive	*356*	11.5	35.1	53.4	100.0	0.309
Negative	*541*	9.1	39.2	51.8	100.0	
Education						
None	*37*	8.1	48.6	43.2	100.0	
Primary	*148*	12.8	43.2	43.9	100.0	0.099
Secondary or more	*686*	9.8	35.6	54.7	100.0	
Religion						
None	*453*	11.3	39.5	49.2	100.0	
African Independent	*296*	11.5	32.4	56.1	100.0	**0.037**
Other Christian	*149*	4.7	41.6	53.7	100.0	
Employement						
Not employed	*638*	9.6	38.2	52.2	100.0	0.470
Employed	*256*	12.1	35.5	52.3	100.0	
Pregnancy likely to be planned?						
Yes	*218*	7.3	33.5	59.2	100.0	0.295
No	*387*	10.1	36.7	53.2	100.0	
Place of residence						
Rural	*506*	10.9	36.6	52.6	100.0	0.702
Urban	*390*	9.5	38.7	51.8	100.0	

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

Table 6.4 shows women's mean numbers of ANC visits by various socio-demographic characteristics. The results show that religion tends to be associated with frequency of ANC visits – women with no religion had a mean of 7.6 ANC visits compared to 8.1 for women claiming African independent religions affiliation and 8.2 for those with 'Other

christian' affiliations, a difference significant at F=3.0, p-value <0.05. Marital status also showed a significant difference in the frequency of ANC visits, with married women having a mean of 8.9 visits compared to 7.8 for those who were not married (F=7.1, p-value =0.008). This difference could be due to changes in the approach to service provision of maternal and child health services. It has become increasingly common to encourage the involvement of women's partners in ANC, and so women who are married and therefore likely to have their husbands' support during pregnancy, and potentially a willingness on his part to attend ANC with them, may have more frequent visits than women without such support.

On the other hand, such support could also mean that married women are more likely to have someone to look after other children while they go for ANC. Lack of support during pregnancy was voiced by some unmarried women who were interviewed for the study. In one extreme case a woman had not attended ANC at all because of lack of support from her partner – Lesego's story is presented in Chapter 7. Women whose pregnancies were likely to be planned also had a significantly higher mean number of ANC visits than women whose pregnancies were likely to be unplanned (F=5.0, p-value <0.05). Maternal age, too, came close to recording a significant difference in the mean frequency of ANC visits, but the pattern of means by age was somewhat unusual.

Higher mean frequencies among the oldest (aged 40+) and youngest (aged 15-19) women might reflect particular concerns among first-time teenage mothers and older mothers fearing complications due to their age, but why 30-34 year-olds also attended ANC more frequently than women in other age groups is less readily explained (F=2.2, p-value =0.05).

Table 6.4: Pregnant women's mean frequencies of ANC visits by socio-demographic factors

Characteristic	*n*	Mean number of visits	*F*	p-value*
Age				
15-19 years	*158*	8.0		
20-24 years	*291*	7.8		
25-29 years	*218*	7.6	2.2	**0.057**
30-34 years	*118*	8.2		
35-39 years	*79*	7.3		
40+ years	*31*	9.3		
Parity				
0-1	*545*	7.9		
2-3	*247*	7.8	0.1	0.858
4 or more	*107*	8.0		
Marital status				
Not married	*819*	7.8	7.1	**0.008**
Married	*65*	8.9		
HIV status				
Positive	*356*	8.1	2.1	0.148
Negative	*541*	7.7		
Education				
None	*37*	7.6		
Primary	*148*	7.5	1.7	0.189
Secondary or more	*689*	8.0		
Religion				
None	*453*	7.6		
African Independent	*296*	8.1	3.0	**0.048**
Other Christian	*149*	8.2		
Employement				
Not employed	*638*	7.9	0.2	0.618
Employed	*256*	7.8		
Pregnancy likely to be planned?				
Yes	*218*	8.5	5.0	**0.026**
No	*387*	7.8		
Place of residence				
Rural	*506*	7.9	0.0	0.983
Urban	*390*	7.9		

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

6.3.3 Timing and frequency of ANC attendance – implications for PMTCT

It is a well-entrenched understanding that ANC attendance is a key entry point for pregnant women to access a range of health promotion and preventive health services, including PMTCT. One of the initial steps in the PMTCT program during ANC is active case finding (or identification) of HIV-positive pregnant women, who are then targeted to receive prevention and treatment interventions under the program (see Figure 6.1).

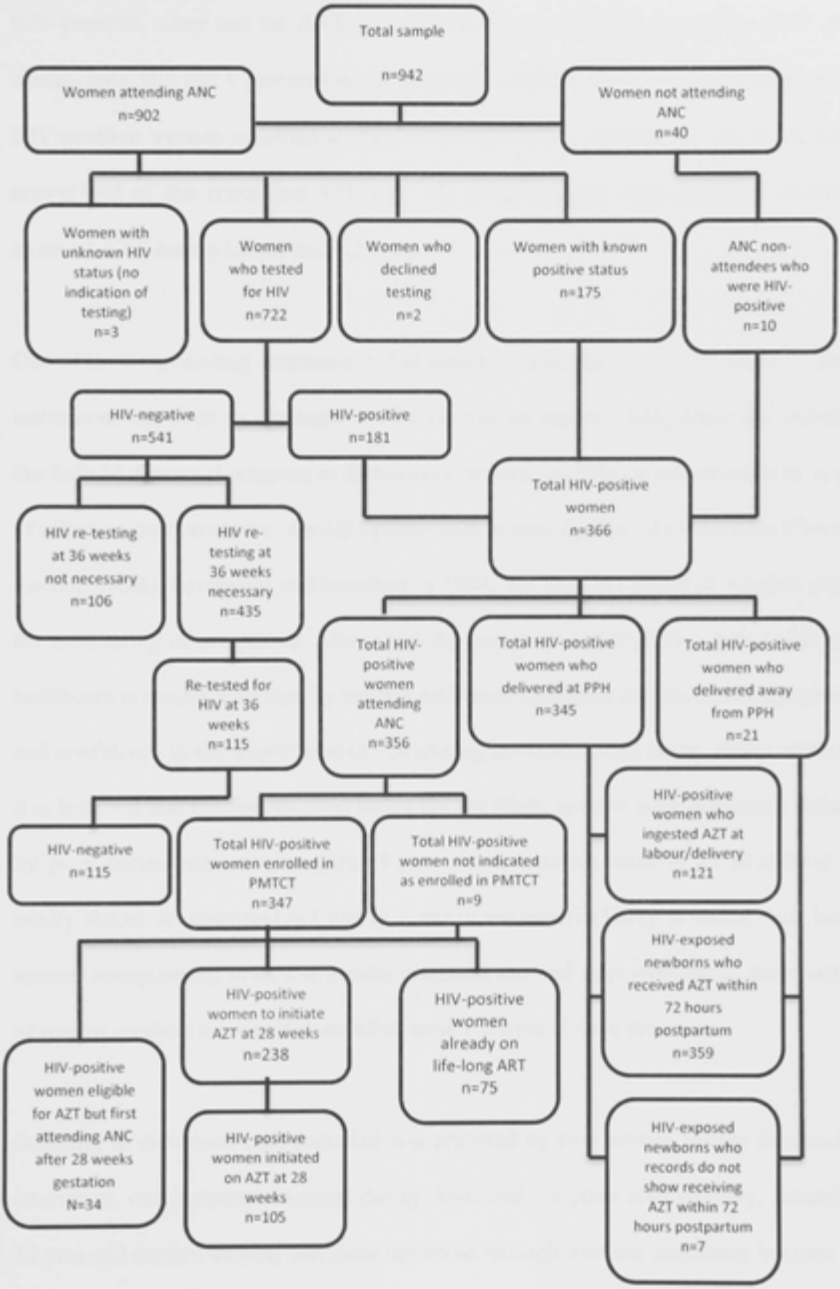
Thus, over and above the usual screening tests that are conducted during ANC, women in Botswana nowadays undergo further screening to determine their HIV status. They are provided with pre-test and post-test counseling, and once found to be positive undergo further screening tests to ensure appropriate treatment and prevention plans are provided. The desirability of early ANC attendance, to allow for active HIV case finding in a health system that is already overburdened and constrained, cannot be overemphasized.

Women who attend ANC on-time, that is within the first trimester as recommended by WHO, give healthcare providers time to decide on their treatment plans unpressured. The WHO recommends four goal-oriented visits for pregnancies that have no risk – healthy women with no underlying medical problem (Lincetto *et al.*, 2006). This minimum number of visits constitutes the standard care to be provided to women in resource-limited settings. It is further recommended that at the first ANC consultation a healthcare provider should make a judgment and decide whether a woman requires special attention (more than four visits) or not, and schedule her future visits accordingly.

The frequency of ANC visits does, however, tend to increase as a woman's delivery date approaches, with nurses interviewed linking visit schedules to gestational age – visits a month apart earlier in pregnancy, then fortnightly, then weekly as the baby's due date approaches. When pregnancies that present problems or in which potential problems likely to affect the pregnancy (such as HIV) are detected, the frequency of visits is thus likely to increase (hence the Palapye average was 7.9 visits per woman, almost double the WHO-recommended minimum number). However, even when a woman may need to visit the clinic more often, if she initiates ANC early those visits are likely to be spaced in a manner that does not overburden either her or the health system. When a woman presents for an ANC consultation there is always a question of whether the care she is going to receive needs to be fast-tracked or not, and if she initially presents on-time this is less likely to be necessary.

Obviously, with over 95 percent of pregnant women attending ANC at least once during pregnancy (Chapter 5), ANC coverage in Botswana presents a unique opportunity for the implementation of a PMTCT program. Figure 6.3 shows the passage of women who attended ANC through the PMTCT pathways prior to and at delivery, and provides a snapshot of missed opportunities in the program, especially at points of care at facilities. It shows that opportunities to provide necessary health care services were missed both during ANC and intrapartum. There were a number of missed opportunities during ANC, especially with regard to HIV testing. First there were the two women who declined HIV testing. Then there were women who needed to re-test at gestational age 36 weeks following initial negative results (435 – the 541 who were HIV-negative less 106 women who did not need to re-test at 36 weeks because three months would not have elapsed since their first tests), of whom only 26.4 percent (115) had a repeat test.

Figure 6.3: ANC attendees through the PMTCT pathways (ANC to delivery)



Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

Thirdly, out of 238 women who first attended ANC at no later than 28 weeks, were HIV-positive, were not on ART, and therefore were eligible to initiate AZT at 28 weeks, only 105 (44.1 percent) were recorded as having done so. And finally, of 345 HIV-positive women admitted to PPH for or following delivery, 21 delivered before arrival and of the remaining 324 only 121 (37.3 percent) were recorded as having received AZT during labour and delivery.

One of the longstanding emphases in midwifery training curricula in Botswana's health institutions has been an emphasis placed not just on clinical skills (since the launch of the Safe Motherhood program in Botswana), but also on clinical documentation as part of effective care provision. An old system used to provide care, the Botswana Obstetric Record (BOR), developed and launched in 1994, has always formed an integral part of the monitoring of pregnancy, labour and the puerperium period for women. Maternal healthcare is mainly provided by trained midwives who have demonstrated competence and confidence in the importance of completing the BOR (Fako *et al.*, 2004). Although it is believed that the figures cited above are not likely to have been drastically reduced by poor documentation, instances of poor documentation were in all likelihood not totally absent. As indicated in Chapter 2, one of the benefits likely to accrue from health system strengthening efforts is greater emphasis on, and improvement in, maintenance of routine medical records that are often used to assess clinical processes.

Omitting to document care provided was reported by two women during face-to-face interviews, one instance occurring during ANC and the other after delivery. Baratile, a 23 year-old mother of one, had been delivered through vacuum assistance because her baby was breech. She had attended her last ANC visit before delivery as scheduled, but

the attending nurse had never told her or written in her obstetric booklet that her baby was a breech presentation. She only learnt this when in labour at the maternity ward, where the midwife asked her if she had ever been told about the position of her baby. The newborn of another woman, Tumelo, 36 years old and a mother of three, had been given AZT at birth, and at their 6 weeks PNC visit the attending nurse had prepared to administer another dose of AZT to her son. Recognising the medication, Tumelo asked the nurse why it was necessary to administer the dose. She was told that her child's wellness booklet (issued post-birth) did not indicate that he had been given AZT at birth. She told the nurse that she recalled her son being given the same medication at PPH when she delivered. She was then asked to go to PPH maternity ward and ask the nurses there to make the notation in retrospect, which she did.

Out of 366 HIV-exposed newborns who were either born at PPH or presented at the hospital within 72 hours of being born elsewhere it could only be established from the records that 359 received AZT within 72 hours. The other seven either did not receive AZT as per the PMTCT protocol or received the drugs without any medical notation of that treatment being made in the pregnancy delivery summary.

All the above instances denote possible missed opportunities to provide comprehensive and available care to mother/child pairs during ANC and delivery. These possible missed opportunities point not only to poor provider-patient relationships, and perhaps a lack of due diligence on the part of healthcare providers, but also to a lack of systematic teamwork. They perhaps also, and most importantly, point to a lack of checks and balances in the health system. Accountability and adequate responsiveness to patients' health needs is critical, yet remains a challenging issue for the health system in

Botswana. Without a culture of accountability and routine clinical audits, women and children will continue to present at health facilities without receiving the benefits of all available health services. The grave impact of this lack of efficiency and effectiveness is loss of trust among patients when eventually they become aware of this lack of diligence from their healthcare providers and the sub-optimal care that it generates.

6.3.3.1 HIV testing

The data from the 942 women's records that were sampled showed that 349 women (37 percent) had been tested for HIV prior to the reference pregnancy, while it could not be established whether 557 women (59 percent) had previously been tested or not and 36 women (4 percent) had definitely not been tested prior to the current pregnancy. Of those who had previously been tested, 175 were HIV-positive. It is quite possible that while some may have been tested without it being noted in their records, many women in the 'could not be established' group had not tested for HIV prior to the reference pregnancy, because previous studies have indicated that many women of childbearing age do test for the first time during ANC (Creek *et al.*, 2009, Turan *et al.*, 2011).

Figure 6.3 shows that out of the 902 women who attended ANC, 722 (80.0 percent) were tested for HIV, while 175 (19.4 percent) were not tested because they already knew they were HIV-positive (and had test results to show the attending healthcare worker, in accordance with the standard operating process for PMTCT active case finding). Only two women (0.2 percent) who had attended ANC had refused to test for HIV, while for another three (0.3 percent) it could not be determined from the records whether they had been tested or not.

The level of HIV testing recorded in the sampled records is consistent with figures commonly reported in research from Botswana, such as through the HIV/AIDS ANC sentinel surveillance, which indicate high testing rates among pregnant women. The results of the 2011 HIV sentinel surveillance indicate that 98 percent of the survey sample of women attending ANC who were offered an HIV test accepted it (Ministry of Health, 2011a). This should not, however, conceal the fact that HIV testing in Botswana began at low levels compared to what it is today. Research has revealed that women were initially (i.e., in the early years after voluntary HIV/AIDS testing was introduced – from the late 1980s through until 2003) reluctant to test for HIV, mainly due to fear, stigma and issues of disclosure and spousal abuse (Ngashi *et al.*, 2002, Kebaabetswe, 2007, Steen *et al.*, 2007, Creek *et al.*, 2009).

A review of the national strategy on HIV/AIDS care and treatment saw the initial voluntary HIV-testing strategy replaced at all health facilities from 2004 by an opt-out strategy. That is, HIV testing became part of routine healthcare provision, with patients having the option to not be tested if they so wished and stated so. While this strategy has increased HIV testing, some scholars have argued that it is unethical, and its risks outweigh its benefits. The risks largely relate to spousal abuse, to which women not yet ready or empowered to deal with issues arising from testing can be subjected, and it is also argued that the increase in testing has occurred mainly because patients do not fully understand their opt-out right (Rennie and Behets, 2006, Kakimoto, 2008, Kumar, 2012).

Arguing for the opt-out strategy, Seloilwe (2011) opined that women who are HIV-positive and elect to become pregnant lose their right to choose whether to protect their

unborn children or not. She argues that in such a circumstance the State, which has ratified the United Nations Convention on the Rights of the Child, has a responsibility to ensure that children are protected while *in utero*. Seloilwe was making a counter-argument to the suggestion of some that the opt-out strategy was unethical.

One of the informants to this study implicitly agreed with the argument that most women do not fully understand their opt-out right when, asked if she had been tested for HIV when attending ANC, she responded:

> *Yes, I took an HIV test. Isn't it that when you register the nurse will tell you that you have to do an HIV test? That is why the first thing they do before they give you a booklet is give you a slip to go to the caravan where you do urine and blood tests, because they have to do an HIV test so that if you are sick you can be given medicine to protect the baby.* (Orefilwe, 33 year-old HIV-positive mother of one).

Similarly, another informant stated:

> *They [the nurses] said when someone is pregnant she has to be tested for the virus, that every pregnant woman must be tested in case she has the virus, and then she will be able to be protected with the baby from the virus. I did not think if I didn't want [to be tested] I could just say it. I felt it must be done by everyone. That is how they put it.* (Bernice, 24 year-old HIV-negative mother of one).

In-depth interviewees were asked if they took an HIV test, and if they answered 'Yes' were further asked why they had decided to do an HIV test, and to explain how they felt when they were advised to test for HIV during pregnancy. It became evident that routine HIV testing was considered a 'normal' or required part of ANC, and conversations with different women demonstrated that the concept of opting-out is not well understood. It was common for women to state that 'the nurse told me I have to test for HIV', or words to that effect. Perhaps, in agreement with Seloilwe's argument, these women did appreciate that in such instances the State had to act in the best interest of

the unborn child (a minor unable to assert its own right), and therefore accepted such an imposition.

What must be acknowledged, however, is that the opt-out strategy is not viewed as an imposition by the State, but rather as a responsible health initiative that seeks to protect people's right to healthcare and, at least in theory, is implemented through informed consent. That is why when a woman declines to test no penalty is imposed on her, and she does not really lose any right in lieu of not protecting that of her unborn child. It must also be acknowledged that while women are assumed to be giving informed consent, many clearly are not. Whatever approaches healthcare workers take to advise women about HIV testing, that advice is frequently not viewed as a simple recommendation that they are free opt out of if they wish to. This was realized by policymakers when they asked healthcare workers not to write in the obstetric booklet of a woman who understood and exercised her opt-out option that she 'refused' to be tested. A Ministry of Health bureaucrat who formerly had been a midwife offered the following observation:

> *We realized that when a woman is labelled [in her booklet] as having 'refused' to do an HIV test, healthcare workers' attitudes towards such a woman change because they are used to making everyone feel as though they must be tested. They forget that HIV testing is not easy for anyone and we as healthcare workers are only supposed to be supportive, to teach and allow the women themselves to make decisions. That is why we have always had big problems; people fainting in consultation rooms when they are given test results because maybe they really were not ready. It is a problem, yes, and it makes things difficult for everyone when a mother is not tested and the next thing both her and the baby come to us and they are sick, when you know maybe you could have prevented this.* (Ministry of Health official, Serowe/Palapye District)

Nonetheless, most women understood and accepted the need for HIV testing when it was recommended or offered to them, as studies conducted in Zimbabwe and elsewhere

in Botswana have also demonstrated (Perez *et al.*, 2006, Creek *et al.*, 2007, Mugore *et al.*, 2008, Baek *et al.*, 2009). In-depth interviews conducted for the present study actually showed that the desire to know one's status was one of the factors contributing to high ANC attendance among women. Thus Baaitse, a 30 year-old mother of three stated, "I went to the clinic to register and to test for HIV as soon as possible, so that if I needed help to protect my baby I could then get it."

While the overall testing level at ANC in the sampled records was high, Figure 6.3 shows that there were also possible missed opportunities for HIV testing. In particular, very few women who tested HIV-negative in the initial test and were advised to re-test at 36 weeks came for the repeat test. It should be noted here that old and recently revised national guidelines on HIV-testing in Botswana carry different statements with regard to HIV re-testing among pregnant women following an initial negative result. Two such documents are the *2009 Botswana National Guidelines for HIV Testing and Counselling*, and the *2011 Botswana PMTCT Pocket Guide*. The former guide (Ministry of Health, 2009:30) reads:

> For pregnant women who initially test negative early in pregnancy, repeat HIV testing should be performed routinely *at* either 36 weeks gestation or at onset of labour, whichever occurs first.

The *2011 Botswana PMTCT Pocket Guide* on rapid HIV testing, on the other hand, speaks of "repeat testing *from* 36 weeks gestation" (Ministry of Health, 2011b:19). The 2009 guideline would mean that a woman who tests negative early in pregnancy should re-test at 36 weeks *or earlier* if she goes into labour before 36 weeks. The 2011 guide on the other hand means that a woman who tests negative early in pregnancy should re-test *at or after* 36 weeks, not earlier. This lack of consistency and clarity has potential to cause confusion among healthcare providers, and ways to simplify this recommendation

should be established. For the purpose of this thesis it was decided to assume a recommendation that women re-test *at* 36 weeks.

As already indicated, not all of the 541 women whose first test was negative needed to re-test at 36 weeks. Some women did not need to re-test because at 36 weeks three months would not have elapsed since their first test. A total of 435 women should have re-tested for HIV at 36 weeks (women first tested at gestational ages 7-23 weeks). However, only 115 of these women (26.4 percent) did so, while 320 women did not have a repeat test. All the women who had a repeat test tested HIV-negative again (Figure 6.3). This might suggest that re-testing is unlikely to detect a new infection, and to the extent that pregnant women abstained from sexual intercourse after a first test they may have judged themselves to have not been at risk during that period. The issue is not, though, just one of detecting new infections, but of guarding against seroconversion, the development of antibodies to HIV which are the basis of a positive HIV test, not yet having occurred in an HIV-infected woman by the time of her original test. Seroconversion can take from as little as a week to several months after infection to occur, and during that interval an infected woman can test HIV-negative. It is unclear how well the concept of seroconversion, and the fact that its failure to have yet occurred can lead to an infected woman falsely testing HIV-negative, are communicated by health workers when recommending a further HIV test at 36 weeks gestation. Indeed it is unclear to what extent healthcare workers consider seroconversion following a negative HIV test to be a big problem in pregnancy. However, if the issue is not adequately explained to patients who initially test HIV-negative it is easy to appreciate that they might regard abstention from sexual intercourse while pregnant as obviating the need for a further HIV test.

Active case finding of HIV-positive women begins on the day a woman makes her first ANC visit – i.e., when she comes to register for ANC. Among other tests she is offered when she registers for ANC is an HIV test. Just as a woman is registered for ANC following confirmation of pregnancy, if she is found to be HIV-positive she is offered enrolment in the PMTCT program after receiving pre- and post-test counselling concerning HIV. If she accepts the offer to enrol in the PMTCT program, she would then be registered in the PMTCT register, as well as being registered as an ANC attendee in the ANC general register. Given that the PMTCT guidelines require that a woman who initially tests HIV-negative should re-test at 36 weeks gestation if the initial test was done three months or more prior to that gestational age, it would make sense to also consider such women enrolled (registered) in the PMTCT program, at least until they are cleared following a negative re-test at 36 weeks gestation. This should happen not only to educate them on how to remain negative, but also to follow them up to ensure that if seroconversion occurs during pregnancy following a negative test, timely diagnoses can be made and proper prevention and treatment plans can be prepared and followed. However, the PMTCT guidelines are silent with regard to actually enrolling women who test HIV-negative. The guidelines stipulate that PMTCT is to be discussed with women who test HIV-positive. But with women who test HIV-negative, healthcare providers are simply instructed to do a risk assessment and advise them to re-test at gestational age 36 weeks.

As indicated earlier in this chapter, women attending ANC generally test for HIV at a median gestational age of 22 weeks (i.e., when they first present for ANC). Some scholars have suggested that testing at gestational ages like this may fail to identify women with acute infections who are in the window period between infection and

seroconversion, as well, obviously, as not detecting infections acquired after testing (Soorapanth *et al.*, 2006, Dube *et al.*, 2008, Lu *et al.*, 2009, Johnson *et al.*, 2012). Incidents of vertical transmission of HIV have been documented among infants born to mothers who had HIV-negative results during ANC (Moodley *et al.*, 2009, Johnson *et al.*, 2012). In Botswana, rapid HIV testing (RHT) and Enzyme-linked immunosorbent assay (ELISA) are used for HIV testing for people over the age of 18 months. These tests, known as antibody tests, do not detect the virus itself, and it can take up to 12 weeks for a person to have enough antibodies to test positive after HIV infection.

It seems that many women who test negative in the first HIV test are 'forgotten' thereafter, even though there is a potential risk of vertical transmission due to post-test seroconversion. This was pointed out by one informant for this study, who when asked if she was enrolled in the PMTCT program stated:

> *Well once you've tested HIV-negative they don't tell you anything anymore. They don't tell you anything about preventing the virus from infecting the baby, they just leave you alone, so I was not enrolled in the program for preventing the virus from going to the child because I was HIV-negative. When I came for the six weeks [PNC] check-up I was not tested either, even my baby was not tested.* (Bernice, 24 year-old HIV-negative mother of one).

Bernice was an ANC on-time attendee who had tested negative when she registered for ANC at three months. She should have been encouraged to re-test and offered re-testing for HIV at 36 weeks, and again when she came for PNC at 6-8 weeks. One of the main factors possibly contributing to this lack of follow-up of women who initially test negative is that they are not enrolled in the PMTCT program. It is therefore not surprising that there is no systematic follow-up of such women in spite of the risk of seroconversion, which has not yet been quantified in Botswana. These missed opportunities for HIV testing have been blamed for late HIV diagnosis in infants whose

mothers tested negative during pregnancy (Lu *et al.*, 2009, Humphrey *et al.*, 2010, Kalk *et al.*, 2012).

The WHO estimates that globally only 15 percent of HIV-exposed infants who require an HIV test are actually tested in the first two months of life (Steen *et al.*, 2007). In Botswana and other resource-limited settings, late diagnosis of HIV in infants has been reported in country studies, pointing to significant issues with HIV testing uptake (Baek *et al.*, 2009, Ciaranello *et al.*, 2011). However, it must be acknowledged that results from the present study did not indicate problems with either new HIV infections or seroconversion occurring during pregnancy (all confirmed re-tests at 36 weeks were negative), so that it is not hard to understand why complacency around the emphasizing of re-testing would creep in among healthcare workers. Nevertheless, it is clear that every opportunity should be taken to curtail the late diagnosis problem during pregnancy, labour, delivery and breastfeeding. In the end, it must be determined where within the PMTCT pathway re-testing of mothers who initially test negative and testing of infants should be stressed.

6.3.3.2 PMTCT uptake, adherence and retention

In addition to HIV-testing, Figure 6.3 covers issues related to PMTCT uptake, adherence and retention. From the total sample of 942 women, 366 were HIV-positive and therefore eligible for HIV treatment plans under the PMTCT program. Of these women, 347 (94.8 percent) were enrolled for PMTCT during ANC (their obstetric booklets were annotated to this effect, often with dates for commencement of AZT or ART also indicated) while 19 (5.2 percent) were not enrolled. Ten of these 19 women were not enrolled because they did not attend ANC. It could not be established clearly

from their records why the nine other HIV-positive women were not enrolled in the PMTCT program during ANC. Obstetric booklets of HIV-negative women were rarely annotated with any reference to the PMTCT program.

Out of the 347 women who enrolled for PMTCT, 238 were to be initiated on azidothymidine (AZT) or combined zidovudine prophylaxis at gestational age 28 weeks. Another 75 women were already on lifelong antiretroviral therapy (ART) and therefore did not need to be initiated on AZT at 28 weeks, while 34 women who required AZT during pregnancy first attended ANC after 28 weeks gestation (Figure 6.3). Table 6.5 shows that out of the 238 women who were to initiate AZT at 28 weeks only 44.1 percent did initiate it then. Of the 53.4 percent of women known not to have received AZT at 28 weeks (2.5 percent could not be classified), 42.0 percent initiated AZT after gestational age 28 weeks and 11.3 percent never initiated it during ANC, even though they were enrolled in the program and attending ANC. It could not be determined from the obstetric records data why these women failed to initiate AZT.

Table 6.5: Percentage distributions of adherence and retention through the PMTCT pathways

PMTCT stage		Did the woman receive the necessary intervention?			
	Eligible women *n*	Yes	No	Not able to determine	Total
AZT at 28 weeks	*238*	44.1	53.3	2.5	100.0
Re-test at 36 weeks	*435*	26.4	73.6	-	100.0
AZT during labour/delivery	*345*	35.1	36.2	28.7	100.0
Not lost to follow up	*347*	79.5	6.9	13.5	100.0

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

It is perhaps worth pointing out here that in the obstetric booklets of all women who initiated AZT at 28 weeks there was a notation that had the date on which they were to initiate AZT as well as a specific reminder to initiate it. This may well have assisted women to make their visits on-time, and therefore might be worth adopting as a standard practice.

Only seven women who initiated AZT at 28 weeks did not have this notation in their booklets, while no women who did not initiate AZT at 28 weeks had the notation in their booklets. It is therefore reasonable to conclude that the notation served to remind both women and healthcare providers of this important intervention, the latter when women (who had custody of their booklets) presented at 28 weeks. In hindsight, it would have been worthwhile to check whether or not women who did not initiate AZT at 28 weeks as they should have done had actually presented for an ANC consultation in that week, but this was not done.

As already noted, while initial HIV testing during ANC was common, HIV re-testing of women initially testing negative at 36 weeks was not and among those who re-tested seroconversion was not an issue (Figure 6.3). This is not, however, to suggest that HIV re-testing should not be emphasized more among women who initially test negative (during labour and breastfeeding, as well as at 36 weeks), because issues of quality control in clinical tests can yield false-negative results and incidents of HIV infection have been discovered in late pregnancy and *postpartum* (Lu *et al.*, 2009, Kalk *et al.*, 2012, Kalk *et al.*, 2013).

Only about 35 percent of women who delivered at PPH and needed to receive AZT during the intrapartum period were known to have received it, while 36.2 percent were known not to have received it and in 28.7 percent of cases it could not be established whether or not intrapartum AZT had been received (Table 6.5). Data indicating whether AZT was administered during labour and delivery were extracted from pregnancy delivery summaries, and in some instances there was no notation in the summary to indicate that AZT had been administered. Such cases were categorized 'not able to determine'. Cases with summaries where the clinical notation was 'advanced second stage labour' were classified 'No (did not ingest AZT during labour/delivery)'.

An interview with a midwife revealed some possible reasons why a woman might not receive AZT during labour and delivery. These included 'born before arrival' cases, where an HIV-positive woman delivers her baby before reaching the hospital, and women presenting at the hospital in advanced second stage labour. In this study only 5.7 percent of births occurred away from the hospital while pregnancy delivery summaries showed that about 19 percent of women presented at the hospital in advanced second stage labour. Against this backdrop it is unclear whether the figures quoted above point to the administration of intrapartum AZT being frequently overlooked without good medical justification, poor clinical care documentation, or a combination of the two.

The results from the obstetric records review reveal that 24 woman who were enrolled in PMTCT – 6.9 percent – were lost to follow up (Table 6.5). Almost four-fifths of women enrolled in the program were not lost to follow up (i.e., had never failed to attend ANC for more than 60 days). This 79.5 percent of women known to have not been lost to follow up included 53.3 percent who had defaulted (poor adherence – i.e.,

failed to initiate AZT at 28 weeks when required to and/or failed to ingest AZT during labour/delivery) and 19.6 percent who had not defaulted (good adherence).

The data on women's retention in the PMTCT program were inconclusive for 13.5 percent of HIV-positive women, for whom it could not be determined whether they had been lost to follow up (i.e., failed to make an ANC visit within 60 days of the previous one) or not. One factor that contributed to this limitation was systemic problems in the scheduling of ANC consultations as well as poor clinical care documentation (see section 6.3.3). Both these factors meant that one could not determine whether care had been rendered or not. For example, regarding problems in consultation schedules, instances were encountered where an HIV-positive woman's obstetric record indicated, by way of a facility date stamp and sometimes notation of her weight (routinely measured at any ANC consultation), that she had presented at the facility for a subsequent ANC visit, but no further clinical care notations were present to attest to any other care. Date stamps are typically applied at a clinic reception desk and weights are usually taken by ancillary staff prior to a consultation with nursing staff. It is likely that women sometimes attend clinics but, given that the system does not provide for appointments to be made at predetermined times and that there is consequently a need to wait in queues, leave again without having a clinical consultation, the evidence of which is some form of clinical notation in their obstetric booklets.

To determine loss-to-follow-up, research assistants were instructed to check the interval between a woman's last ANC consultation and the date of delivery. If that interval was longer than 60 days a woman was considered lost-to-follow-up. Routine clinical care notations that helped research assistants to determine a woman's ANC attendance, and

her retention in the PMTCT program in particular, were notations regarding the re-filling of prescriptions for AZT drugs, which occurred monthly, fortnightly or weekly depending on a woman's gestational age and how soon she should therefore be making her next ANC visit. A notation of this type (when drugs were supplied) was made by a nurse in the woman's obstetric booklet, indicating the date of the re-fill and the period it covered. Other clinical notations relating to PMTCT included HIV/AIDS counselling, advice concerning infant feeding options and other related or necessary disease management or care recommendations. These notations, when made, always included the date of the consultation at which they were made.

When a woman appeared to have presented at a facility within the time interval set to define loss-to-follow-up but there was no indication that necessary clinical care under the PMTCT program had been administered it was problematic to conclude whether she had been lost-to-follow-up or not. In such cases the record was categorised 'not able to determine'. This was because lack of clinical care notations may not always mean care was not provided (see section 6.3.3).

6.4 Factors associated with adherence and poor adherence to the PMTCT protocol

Women's socio-demographic characteristics were examined to establish their association (if any) to PMTCT adherence or poor adherence. At the time of collecting the data (2010-11) there was no official definition of poor adherence, or defaulting, under the PMTCT program in Botswana. In an interview the PMTCT coordinator in Palapye, when asked how non-adherence/defaulting was defined, responded:

> *I really can't say there is an official definition, but I think it is generally assumed that PMTCT is short, and therefore women are expected to not*

deviate from their treatment plans even for a single day or by a single dose. Remember also that with ART the required level of adherence is 95 percent, very high, so any defaulting, even if it is just missing one dose or two doses of required medication, can affect that required percentage level for effective adherence.

Adherence or poor-adherence in this study was established by observing two critical actions that needed to be taken and were noted in women's obstetric booklets at key stages along the PMTCT pathway. These were (a) initiation of AZT at gestational age 28 weeks for HIV-positive women who had not yet begun treatment and (b) ingestion of AZT during labour/delivery for all HIV-positive women. These are simply points along the PMTCT pathway which are health system-driven but also patient-driven. By looking at the PMTCT pathway it was hoped that the analysis would be able to highlight quality-gap issues that may be present in the program and the extent to which they may be influenced by women's individual characteristics. In hindsight there may have been some scope for also focusing on the timeliness with which prescriptions were re-filled as an indirect indicator of 'adherence' to medication regimes, but this potential was not recognized at the time data were being extracted from women's obstetric records.

The chi-square test was used to explore relationships between pregnant women's socio-demographic characteristics and PMTCT adherence or poor adherence among HIV-positive women. A p-value of <0.05 was taken to indicate statistical significance. This analysis was undertaken in an effort to characterise women according to their PMTCT utilization patterns – whether women with certain socio-demographic characteristics were more or less likely to adhere or not adhere to major PMTCT milestones.

6.4.1 Initiation of AZT at 28 weeks gestation

Table 6.6 shows the results of analyses of the associations between socio-demographic characteristics and adherence or poor adherence of HIV-positive women who were not on ART to initiation of AZT at 28 weeks gestation. Women who failed to initiate AZT at 28 weeks because they had not yet at that time initiated ANC are excluded from the analysis. The results from simple bivariate analysis showed that age was the only socio-demographic characteristic that was statistically significantly associated with initiation or non-initiation of AZT at 28 weeks (p-value <0.05), but there was no clear pattern of association. Although relatively few in number, women aged 35-39 years were the most likely to have initiated AZT at 28 weeks, but women in the adjacent 30-34 age group were the least likely to have done so. No clear gradation with age is in evidence. After controlling for all other variables the odds of initiating AZT at 28 weeks were significantly higher for women aged 35-39 than for women aged 15-19 (p-value <0.05).

6.4.2 Ingestion of AZT during labour and delivery

Table 6.7 shows results of analyses of the association between HIV-positive pregnant women's socio-demographic characteristics and their adherence or poor adherence to ingesting AZT during labour and delivery. The odds of having ingested AZT during labour and delivery were significantly higher for women of parity 0-1 than for women of parity 2-3 (p-value <0.05). This could be due to a tendency for higher parity women to present at the hospital in advanced second stage labour, histories of several previous deliveries causing them not to hasten to hospital at the onset of labour as, say, a women due to deliver her first child might. This highlights a need for healthcare providers to emphasise to HIV-positive mothers that they should present at the hospital as soon as they experience any labour pains, rather than waiting to ensure they really are in labour.

Table 6.6: Relationships between socio-demographic risk factors and adherence or poor adherence to taking AZT at 28 weeks gestation (n=238)

Characteristic	*n*	Initiated AZT at 28 weeks gestation?			Adjusted odds ratio
		Yes	No	p-value*	95% Confidence interval†
Age					
15-19 years	*38*	31.6	68.4		1.00
20-24 years	*86*	50.0	50.0		2.17 (0.97 4.84)
25-29 years	*55*	45.5	54.5	**0.040**	1.81 (0.76 4.29)
30-34 years	*30*	33.3	66.7		1.08 (0.39 3.01)
35-39 years	*14*	78.6	21.4		7.94 (1.87 33.81)[a]
40-49 years	*7*	42.9	57.1		1.63 (0.31 8.43)
Parity					
0-1	*143*	44.8	55.2		
2-3	*65*	41.5	58.5	0.362	
4 or more	*24*	58.3	41.7		
Marital status					
Not married	*213*	45.1	54.9	0.874	
Married	*17*	47.1	52.9		
Educational level					
None	*13*	61.5	38.5		
Primary	*60*	36.7	63.3	0.157	
Secondary or more	*151*	48.3	51.7		
Religious affiliation					
None	*112*	42.0	58.0		
African Independent	*88*	48.9	51.1	0.611	
Other Christian	*32*	46.9	53.1		
Employment status					
Not employed	*163*	42.9	57.1	0.326	
Employed	*68*	50.0	50.0		
Place of residence					
Rural	*141*	45.4	54.6	0.960	
Urban	*91*	45.1	54.9		
Pregnancy likely to be planned?					
Yes	*99*	51.5	48.5	0.295	
No	*78*	43.6	56.4		

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

† Adjusted odds ratios derived from logistic regression relating all listed characteristics to initiation of AZT at 28 weeks

Note: [a]=p-value <0.05

Table 6.7: Relationships between socio-demographic risk factors and adherence or poor adherence to taking AZT intra-partum (n=345)

Characteristic	*n*	Ingested AZT during labour and delivery?			Adjusted odds ratios		
		Yes	No	p-value*	95% Confidence interval†		
Age							
15-19 years	*48*	47.9	52.1				
20-24 years	*89*	52.8	47.2				
25-29 years	*57*	40.4	59.6	0.597			
30-34 years	*33*	48.5	51.5				
35-39 years	*15*	33.3	66.7				
40-49 years	*8*	37.5	62.5				
Parity							
0-1	*167*	51.0	49.0		1.86	(1.03	3.36)[a]
2-3	*67*	35.8	64.2	0.078			1.00
4 or more	*29*	55.2	44.8		2.21	(0.91	5.35)
Marital status							
Not married	*228*	46.5	53.5	0.351			
Married	*20*	60.0	40.0				
Educational level							
None	*11*	45.5	54.5				
Primary	*71*	43.7	56.3	0.793			
Secondary or more	*161*	48.4	51.6				
Religious affiliation							
None	*125*	49.6	50.4				
African Independent	*98*	48.0	52.0	0.440			
Other Christian	*30*	36.7	63.3				
Employment status							
Not employed	*181*	44.2	55.8	0.093			1.00
Employed	*71*	56.3	43.7		0.66	(0.37	1.19)
Place of residence							
Rural	*148*	48.6	51.4	0.702			
Urban	*105*	45.7	54.3				
Pregnancy likely to be planned?							
Yes	*83*	42.2	57.8	0.309			
No	*111*	50.5	49.5				

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

† Adjusted odds ratios derived from logistic regression relating all listed characteristics to initiation of AZT at 28 weeks

Note: [a]=p-value <0.05

Presenting at the hospital at the onset of labour is an issue that needs to be emphasized. Two women interviewed for this thesis claimed that healthcare providers contributed to them presenting late during labour. They had been turned away from the hospital by healthcare workers who told them they were in false labour, only to have to return later that night with their babies in distress, one of the women giving birth on her way back to the hospital.

Asked why she had not delivered at the hospital, Medy, the 42 year-old mother who had delivered on the way back to the hospital after being turned away from it had this to say:

> *I could have delivered at the hospital, just as well.* Bonnese ba a re lathelela *(The nurses do not care about us). Instead of sending me back home that nurse could have checked what was going on with me, why I was feeling pain in the stomach. But someone sends you back home just like that ... just look at what happened, I could have lost my baby.*

The other woman turned away from the hospital after being told she was in false labour, Nkamo, was a 26 year-old lady due to deliver her first baby. Upon continuing to experience pains during the day she decided to see a local doctor at a private clinic, who confirmed that she was in labour. She was referred back to the hospital where it emerged that her child was in distress, with the umbilical cord wrapped around its neck.

Women's employment was also examined through logistic regression analysis to determine if it might be a significant predictor of adherence or poor adherence to ingestion of AZT during labour and delivery. However, as in the bivariate analysis, it did not attain statistical significance when all other variables were controlled for.

These results are consistent with those from a study conducted by Mirkuzie *et al.* (2011) in Ethiopia. Mirkuzie *et al.* noted that "no significant associations were observed

between receiving medication [initiating AZT at 28 weeks] during pregnancy and socio-demographic ... variables" (Mirkuzie *et al.*, 2011:5). Neither did they find any significant association between such socio-demographic characteristics as education, age and number of pregnancies and ingestion of AZT intrapartum. Women of parity 2-3 did have lower odds of ingesting AZT during labour and delivery than women of parity 0-1, but no significant association was found between marital status and poor adherence.

6.4.3 Retention and loss-to-follow-up

Table 6.8 shows the results of the association between women's socio-demographic characteristics and loss-to-follow-up in the PMTCT program. Out of the 347 women who were enrolled in the PMTCT program, 24 (6.9 percent) were lost-to-follow-up. Simple chi-square tests did not indicate any significant socio-demographic differences among women with regard to loss-to-follow-up. With a p-value of 0.08, maternal age emerged as a variable worth further consideration, although the pattern of age differences did not follow a clear gradient. However, multivariate analysis showed no significant differences in odds ratios compared to age group 15-19 as reference group. Multivariate analysis did, though, indicate that extreme parity (4 or more) was a significant factor in women's loss-to-follow-up from the program.

After controlling for all other variables, the odds of loss-to-follow-up were significantly higher for women of parity 4 or more than for women of parity 0-1, at p-value <0.05. In multivariate analysis, rural-urban residence marginally failed to attain statistical significance, with the odds of loss-to-follow-up lower for women residing in an urban area than for women of rural residence, but the p-value only 0.08. The paradox of hope and fear/frustration (struggling to cope and remain positive) may explain loss-to-follow-

Table 6.8: Relationships between women's socio-demographic characteristics and loss-to-follow-up (n=347)

Characteristic	*n*	Lost-to-follow-up?			Adjusted odds ratio		
		Yes	No	p-value	95% Confidence interval†		
Age							
15-19 years	*55*	3.6	96.4				1.00
20-24 years	*102*	3.9	96.1		1.08	(0.19	6.10)
25-29 years	*67*	13.4	86.6	0.08	4.11	(0.85	19.90)
30-34 years	*43*	14.0	86.0		4.30	(0.82	22.48)
35-39 years	*19*	5.3	94.7		1.47	(0.13	17.22)
40-49 years	*12*	16.7	83.3		5.30	(0.67	42.14)
Parity							
0-1	*183*	5.5	94.5				1.00
2-3	*79*	11.4	88.6	0.12	1.94	(0.30	12.48)
4 or more	*38*	13.2	86.8		8.30	(1.60	43.16)[a]
Marital status							
Not married	*271*	7.7	92.3	0.37			
Married	*23*	13.0	87.0				
Educational level							
None	*14*	7.1	92.9				
Primary	*83*	10.8	89.2	0.49			
Secondary	*195*	6.7	93.3				
Religious affiliation							
None	*148*	6.1	93.9				
African Independent	*116*	9.5	90.5	0.46			
Other Christian	*36*	11.1	88.9				
Employment status							
Not employed	*219*	8.7	91.3	0.51			
Employed	*79*	6.3	93.7				
Place of residence							
Rural	*184*	9.8	90.2	0.15			1.00
Urban	*116*	5.2	94.8		0.15	(0.02	1.28)
Pregnancy likely to be planned?							
Yes	*135*	8.1	90.8	0.78			
No	*98*	9.2	91.9				

Source: Palapye Primary Hospital, random sample of 942 maternity records covering deliveries from April 1st 2005 to March 31st 2010

† Adjusted odds ratios derived from logistic regression relating all listed characteristics to loss to follow up for all women enrolled in PMTCT

Note: [a]=p-value <0.05

up among women of extreme parities. The hope and possibility of giving birth to an HIV-free child is often clouded by a sense of fear and despair – a failure to cope with the burden of HIV and pregnancy as well as with raising one's other children, who may also be HIV-positive. Two women's stories from the in-depth interviews highlighting these issues are told in Chapter 7 (see section 7.2.2).

6.5 Discussion

This chapter has presented findings on patterns of maternal and child health service utilization, looking specifically at the timing of initiation of ANC and the frequency of ANC attendance. An aspect of attendance that has been noted points to the problem of scheduling of ANC consultations (and perhaps also PNC consultations). Women seeking ANC services generally present initially at a health facility without any prior appointment. For subsequent visits and PNC they are advised a date for their next visit, but not a time on that date. The obstetric records reviewed indicated quite a few instances where women had presented at a health facility but appeared to have returned home without receiving care, presumably due to excessive waiting times and their need to attend to other activities in their lives. It is perhaps time that consideration was given to introducing a full appointment-based system for routine ANC and PNC visits. This would help women and healthcare providers to plan and use their time more efficiently.

Timing and frequency of ANC attendance have been discussed in the context of the PMTCT program, in which such issues as loss-to-follow-up and adherence or poor adherence to the program were also addressed. The chapter has sought to determine the proportions of women who attended ANC on-time, slightly late, late and very late and to characterize these groups of women. The results indicate that a majority (about 85

percent) of women made their first ANC visit between slightly late and very late (i.e., in their second or third trimester), compared to only 15 percent who made it on-time (in the first trimester), although 30 percent of the 85 percent were only slightly late (i.e., they commenced ANC at 16-20 weeks gestation). Besides the high ANC coverage reported in this study, a large proportion (85.7 percent) of the women who attended ANC made at least four ANC visits, the minimum recommended by the WHO. This is higher than the national figure of 73 percent reported for Botswana by the WHO for the period 2005-2011 (WHO, 2012). Age, religion and marital status were shown to have a significant association with women's frequency of ANC attendance (Table 6.3). Women were less likely to have made only 1-3 visits and more likely to have made 8 or more visits if they were aged 40 or more, supporting the idea that pregnancy in older age is perceived to be risky. The patterning of other age differences is less clearcut. Women aged 25-29 and 35-39 were the least likely to have made 8 or more visits. Women were less likely to have made only 1-3 visits and more likely to have made 8 or more visits if they were married. Women were also more likely to have made only 1-3 visits if they belonged to the African Independent church or had no religion than if they were in the 'Other Christian' category, while those with no religion were the least likely to have made 8 or more visits. Although education was not statistically significant overall, well educated women had more often made 8 or more ANC visits (Table 6.1).

Women initiating ANC late poses a challenge for an already overburdened health system. Health posts, clinics and the hospital in Palapye are all faced with various systemic challenges, including shortages of staff and equipment, unreliable drug supply and inefficient referral systems for provision of care. In-depth interviews with women revealed instances where women had presented at a facility only to find no midwife

available to attend them (see Chapters 5 and 7). Technical issues such as disease screening, testing and staging (assessing the progression of HIV infection in an individual) for proper management of both pregnancy and HIV/AIDS in pregnancy are some of the operational issues facing health facilities that are rendered more difficult by women initiating ANC late. As already indicated, a shortage of human resources to deal with heavy workloads that also require prompt turn-around of test results, compounded by poor teamwork, inadequate equipment and inefficient drug supply logistics, not only puts much pressure on the system but leads to poor responsiveness. Conversations with healthcare workers during fieldwork revealed that there are instances where CD4-count machines break down and are not able to be repaired or replaced quickly, requiring facilities in the meantime to send specimens elsewhere for analysis (although this was not observed in Palapye during the period of collecting data for the present study). There were also instances observed in women's obstetric booklets where certain clinical tests were noted as needing to be carried out and further, collaborative patient management was called for, but no further notation appeared to indicate that the action or consultation recommended had occurred.

Overall, when women present late in the context of a high HIV prevalence it means that patient care and women's decisions to take up treatment plans need to be fast-tracked. The problem with fast-tracking patient care is that quality of care is likely to be compromised. Also, the patient may not have adequate time to absorb all the information she is offered in order to be in a position to make an informed decision about whether to accept a recommended treatment plan.

It is also speculated that the potential for lack of preparedness to begin a treatment and prevention plan caused by a need to fast-track patient care may contribute to the high levels of poor adherence across the PMTCT pathway. Results presented in this chapter revealed that PMTCT uptake among HIV-positive women is very high (94.8 percent), which is consistent with a national estimate of 94 percent in 2011 (UNAIDS, 2012b). Although the proportion of women who enrolled and were then known to have been lost-to-follow-up was low (6.9 percent), the proportions for whom adherence at particular stages of the PMTCT pathway was poor were high. Unfortunately, the available data did not permit full ascertainment of the extent of loss-to-follow-up, it being not possible to determine conclusively whether or not over 10 percent of HIV-positive women enrolled in the PMTCT program had been lost-to-follow-up.

The results presented in this chapter do, however, reveal considerable retention in the PMTCT program, it being ascertained that almost 80 percent of women in it clearly had not been lost-to-follow-up. However, there is evidence of poor adherence during ANC, with at least 53.3 percent of HIV-positive women not initiating AZT at 28 weeks gestation as they should have done. Also, although they continued to attend ANC until delivery, nearly three-quarters of women who needed to re-test for HIV at 36 weeks failed to re-test as recommended. In addition, at least 36 percent, and possibly as many as 65 percent, of the women who were HIV-positive did not receive AZT during labour and delivery.

Most socio-demographic characteristics did not show any significant association with women's PMTCT adherence or poor adherence. However, age and parity were respectively significant predictors of adherence to initiating AZT at 28 weeks and

ingesting AZT during labour and delivery, although the pattern of the age differentials was somewhat erratic and difficult to comprehend. Extreme parities, (4 or more) were found to be a significant predictor of loss-to-follow-up from the PMTCT program. The results presented in this chapter reveal missed opportunities for providing optimal care to women and children in the context of HIV/AIDS. Healthcare providers are the main agents who fail to use to the full several opportunities to provide women with available health services, including especially psychological support or referral for women who are finding it hard to cope. Missed opportunities include, for example, instances where many women who initially tested negative for HIV and were supposed (as per the PMTCT protocol) to re-test at 36 weeks in case of post-test seroconversion did not re-test. It may well be that women chose not to re-test out of fear, or they may have abstained from sexual activity following initial testing and assumed themselves to be free from risk of post-test infection. But it is also reasonable to speculate that healthcare providers did not maintain a consistent and systematic approach to encouraging women to re-test at 36 weeks gestation, as it has been indicated that HIV-negative women are not formally enrolled in the PMTCT program. If the main reason for recommending re-testing is post-test seroconversion, it is doubtful that healthcare providers are effectively communicating this concept and its capacity to produce false negative HIV tests to women.

Opportunities to provide women with necessary prophylaxis intrapartum had also been missed, even though women had delivered at a health facility. Thus, although it could not be ascertained from the available data whether 28.7 percent of women had received AZT during labour and delivery or not, 36.2 percent clearly had not received it, even though they had delivered at the hospital. Interviews with healthcare providers

concerning this finding brought only the response that women often presented late, with in particular many presenting in advanced second stage labour. While presenting late to the hospital during labour and delivery may well be to some degree the fault of women themselves, it has been established that the problem is also caused by messages conveyed by healthcare providers, and by women's past experiences of being sent home because labour was not sufficiently advanced when presenting for delivery. This points not just to poor relationships between healthcare providers and women, who are turned away on the basis of allegedly being in false labour or of needing to wait until their contractions are more regular, but to an overburdened health system as well.

It is possible that healthcare provider advice to women not to present until their contractions are more regular and closer together reflects limited space in the maternity ward – providers seeking to avoid overcrowding as more and more women seek to wait longer periods at the hospital for delivery. These missed opportunities also point to the problem of patient care needing to be fast-tracked in a system that is already overburdened, to the point where care simply becomes inadequate. But it may also be an issue of healthcare providers being remiss about providing the care that women need. Research from other countries has shown that one of the factors that contributes to maternal and child mortality is delays in providing women and their babies with necessary clinical interventions, even after they reach a health facility (Walraven *et al.*, 2000, Ray *et al.*, 2013).

The question that remains is how, in instances where women present at a health facility, even 'on-time', and do not receive the care that they and their child are entitled to receive, is their subsequent health service utilization affected? Routine omissions in

healthcare delivery, once women become aware of them either personally or through the experiences of others, undoubtedly frame women's subsequent health service utilization patterns. This will be shown in Chapter 7, which delves further into the general understanding most women have regarding available health services.

As a postscript to this chapter it is perhaps appropriate to suggest that some of the language used in it, which reflects current practice in the healthcare literature, is problematic because it implicitly if not explicitly attaches responsibility/blame for disruptions to treatment programs to individual patients and absolves healthcare providers and the healthcare system. In particular the terms 'adherence' and 'defaulting' are less than ideal, notwithstanding WHO acknowledgement that there are provider and health system-related determinants of 'non-adherence' (section 6.1). The term 'adherence' has tended to replace 'compliance', which was unsatisfactory because it implied an expectation of obedience to a doctor's or nurse's order in a relationship of subordination and control that contradicted models of patient-centred or partnership health care. But an even more neutral term is desirable – perhaps the focus could be the 'continuity' of a treatment program, with 'non-continuity' leaving open the apportioning of responsibility for the implied program disruption. Likewise instead of talking of 'default', which implies patient responsibility, a more neutral terminology might be to write of treatment program 'disruption' or 'breakdown', depending on whether the interruption is temporary or permanent.

CHAPTER 7

BEYOND RISK FACTORS TO LIVED EXPERIENCES: RECENTLY PREGNANT WOMEN'S REASONS FOR THEIR HEALTH SERVICE UTILIZATION PATTERNS

7.1 Introduction

This chapter is concerned with documenting perceptions of women who recently delivered or presented at Palapye Primary Hospital (PPH) that may have helped shape or influence their health service use. It seeks to provide an understanding of women's health service utilization patterns as identified in the preceding two chapters. The challenge in providing that understanding is to select the appropriate approach through which to frame and present it. As a researcher, one is able to engage with informants by asking them questions during face-to-face interviews, and as they articulate their answers in various ways one may or may not be able to readily capture their true intended meaning in writing. This is particularly the case when using unstructured or semi-structured questions, which give informants particular opportunity to contribute to understanding of the issue at hand as they are enabled to talk more freely than if responding to a structured questionnaire. Using an inappropriate framework to present the data could do great injustice to the integrity of issues raised by women and the phenomena being explored.

Although there are guidelines in the literature, there are many data analysis and interpretation approaches that a researcher may elect to use, and these vary by discipline and related analytic traditions in the use of qualitative methods (Bradley *et al.*, 2007). For instance, scholars have used different approaches to data analysis based on whether the qualitative method used for data collection was ethnography, case studies or in-depth interviews. Taking into account the many theories and designs associated with

these methods, methodological uniformity in qualitative data analysis is understandably difficult to achieve (Bradley *et al.*, 2007). In the end, analysis and presentation of qualitative data, even within a particular design paradigm, can follow various theoretical frameworks depending on what the researcher aims to show. There are, for example, several strategies or theoretical frameworks for analysing in-depth interviews, such as grounded theory, symbolic interactionism, phenomenology, discourse and thematic analysis.

Grounded theory has been defined as a theory-generating approach. In this strategy theory is generated or discovered systematically from empirical data rather than from existing literature (Glaser and Strauss, 1967). It calls for a deductive conceptualization of the data in order to explain what is being studied. Symbolic interactionism on the other hand is an approach that derives from the understanding that people interact through symbolic meaning from the structures in their social world (Blumer, 1969). It has been used to study people's way of life as well as their conduct (Olsen, 2008). Phenomenology (see Chapter 3, section 3.5.2.1.4), discourse and thematic analysis are some of the frameworks most suited for narrative analysis. Thematic analysis is widely used as a method of data analysis with different qualitative methods, data analysis following a highly inductive approach using themes that emerge from the data (Braun and Clarke, 2006, Guest *et al.*, 2012). In other words, the researcher looks for meaningful themes within a body of collected data. This strategy varies from discourse analysis, which seeks to understand the underlying social structures that may be being played out in the spoken or written word. In analysing qualitative data the researcher seeks to identify the use of specific features of language or text, especially in relation to social aspects of people's lives – studying the language in use (Alba-Juez, 2009).

In this chapter the aim was to allow the experiences of women to be heard, recreating them in a manner that captures the social relationships, processes and structures that account for their observed health service use. To this end, in the first instance explanations given by the women who informed the study are described rather than interpreted. This is an approach that aims to present women's perspective on how they attend to their health needs and those of their (unborn) children in their ordinary everyday lives. In the second section of the chapter women's voices are heard through verbatim quotations, which are integrated with other data from key informant interviews. Overall, although the data are analysed thematically, the analysis is theoretically guided by descriptive phenomenology, the aim being to describe women's lived experiences as consumers and clients of maternal and child health services (see Chapter 3, section 3.5.2.1.4).

Seeking to understand women's access to and utilization of maternal and child health services, and how they encountered and lived through their healthcare experiences were the foci of the data analysis process. It was intended that this understanding should be based as much as possible on the perspectives of the women, minimizing researcher bias in the analysis. It must be acknowledged, however, that to completely put aside one's own perception and interpretation is difficult, if not impossible. Nevertheless, an awareness of the effect of one's self, as well as one's own preconceived ideas and knowledge about the phenomenon under study, is important to help minimize potential bias of this type in data interpretation – reflexivity. This was also important during data collection, where the researcher's having been born and raised in Palapye and being a mother of one child herself, was inherently crucial to the research and the research process. These attributes not only made her particularly suited for the approach to data

collection employed in this study but also placed her in the research process as an insider-outsider. This meant that the women who were interviewed were able to talk openly with her as to another woman who might face similar challenges to their own. That was also to say that the researcher could not be fully detached from the research and the data analysis process, and efforts made to minimize bias in the data interpretation process should not be assumed to be aimed at objectivity.

Listening to and reading through the recorded and transcribed interviews that captured women's narratives of their healthcare experiences, the researcher 'bracketed' her preconceptions. Her interest was to allow the data to provide and build their own meaning and structure, without imposing any preconceived theory on them. Thus, researcher interpretations were initially laid aside in favour of presenting just informants' views. This was done by reflecting on one's preconceived ideas, knowledge and experiences, and making every effort to keep them separate from those narrated by the women. The analysis was allowed to follow the data in order to gain understanding of the meaning of women's descriptions of their thoughts, feelings and the situations in which their health experiences had been located. Themes were identified and abstracted from women's narratives that were seen as essential to their health service utilization experiences. Collective themes (those that recurred across the group of informants) and individual themes (those unique to one or a few individual informants) are noted and presented throughout the next section of the chapter (Waters, 2013).

Data from the face-to-face interviews provide a rich account, from women's point of view, of health system performance that can go a long way in helping policymakers and healthcare providers understand the patterns of health service use identified in this

thesis. It is an account of personal experiences with healthcare providers and the health system in general. The stories women tell provide insight into how their personal knowledge and subjectivity play out through their healthcare interactions – how they experienced healthcare and how that experience then shaped and motivated (or discouraged) their health actions. What must be appreciated is that any particular health event or interaction may be experienced differently by different women, given their individual agency, personal knowledge and different social contexts.

The data presented have been divided into two sections. The first provides a thematic summary of findings which are women's descriptions of their lived healthcare experiences related to health service use. These key findings are the responses women gave in addressing the third objective for the thesis, which was to explore the reasons that women who avoid or delay ANC or are lost to follow-up within the PMTCT program give for their decision-making, and the role of trust in relation to those decisions. In this section literal words from transcribed interviews are used as much as possible, although slight changes and omissions are made where needed for the purpose of clarity. The following section provides researcher interpretations of the findings. Selected narratives from the interviews are engaged with to unpack the data within a conceptual framework of trust in healthcare providers and the health system in general. Quantitative data from the obstetric records review are drawn upon within this discussion where necessary to elucidate issues raised.

7.2 Women's health service use

Maternal and child health service utilization patterns are influenced by a number of factors. The extent to which women understand and perceive healthcare to be important

or not important during pregnancy and childbirth is often reflected in their motivations for health service utilization or non-utilization. Over and above women's personal knowledge and perception, there are also external forces within their broad social environment which help shape their health service use. Although this thesis is concerned with trust as a predictor of maternal and child health service use (see Chapter 2, Figure 2.2), all other factors influencing women's health service use are also considered. The structure of this section follows the main questions that guided the in-depth face-to-face interviews (Appendix 5), and the themes emerging from the data are used as subheadings in presenting findings.

7.2.1 Reasons for attending ANC

It was shown in Chapter 5 that much higher proportions of women attended ANC (at least one visit – 95.8 percent) than did not attend (4.2 percent). In order to gain insight into these two groups, women who had attended ANC were asked why they had attended and those who had not were asked to provide their reasons for not attending.

Overall, ANC was recognised as an important health service by all 27 women who were interviewed who had attended ANC as well as by some interviewees who had not attended (6 of 9, 66.7 percent). For women who had attended, not only was ANC viewed as important for better pregnancy outcomes, it was also an obligatory and responsible thing to do. This was highlighted clearly in a statement by Olebogeng, a 36 year-old HIV-positive mother of three who said "what will you say to people if you do not attend and then you encounter some problems and the baby dies – I am sure you can get in trouble with the law". Women who attended ANC also gave four other reasons for doing so.

7.2.1.1 Confirmation of pregnancy

Women's actions in pregnancy and childbirth have been found to be guided by embodied knowledge – "subjective knowledge derived from a woman's perception of her body and its natural processes as these change throughout a pregnancy's course" (Browner and Press, 1996). This knowledge allows women to diagnose their pregnancy status to a degree even before it can be confirmed clinically, and to know when they are about to give birth (Browner and Press, 1996). For example, bodily changes such as missing a period, breast tenderness/soreness, nausea, and food cravings have all been used by women as a basis for suspecting that they may be pregnant.

All 36 women interviewed for this study had used missing a menstrual period to diagnose suspected pregnancy in the first instance. It was also this knowledge that had motivated most of them (23 of 27, 85.2 percent) to initially seek antenatal care. These women stated that first and foremost they had registered for ANC to have pregnancy tests in order to establish whether they were pregnant or not after missing periods. Confirmation of pregnancy is an initial and routine element of ANC under the WHO's focused ANC model guidelines. These women also all indicated that they had decided for themselves to initiate ANC, whereas women from elsewhere in sub-Saharan Africa and other developing countries often attend ANC following encouragement, and sometimes permission, from someone else – perhaps a spouse, mother or mother-in-law (Desai and Johnson, 2005, Hardin *et al.*, 2008, Barua, 2012).

Explaining why she had attended ANC, Nkamo, a 26 year-old HIV-negative primigravida giggled and stated that:

> *I missed my period that month and I suspected I could be pregnant ... but I doubted, asking myself what if it is not a baby but just some other*

things. So I decided to go to the hospital and not try and wait to see if my period will come the next month – I was happy too at the prospects of being pregnant, and wanted to make sure everything was OK.

Metsi, a 26 year-old HIV-positive mother of two and another ANC attendee said:

Ah! You know, my children do not follow after each other by even a year, so I was not sure at the beginning when I missed my period that month. That is why I went to the clinic, so that I could check if I was pregnant and also to test for HIV.

Findings from in-depth interviews regarding ANC attendance in order to confirm pregnancy highlighted the issue of contraceptive use among women interviewed as well. Contraceptive failure was hinted at by several women, either because they were not using it properly or for other reasons that could not be established. For instance, Wame, a 34 year-old HIV-positive mother of four stated that she had become worried after missing her period for three consecutive months, although she believed she was using contraception appropriately. She summed it all up when asked why she had attended ANC:

Why I attended clinic, hey, I wanted to check if I was pregnant. I use the pill to prevent [pregnancy], especially now that I am grown up, you see ... the problem is that I sometimes forget to take the pill but I don't remember having intercourse when I've not taken the pill. Ah! I am afraid because I did not protect myself then. So when I missed my period the first time, I just thought it was something else, but when three months passes and you still see nothing you begin to suspect it could be pregnancy, so I went to the clinic to confirm the pregnancy.

Attending ANC to confirm pregnancy and uncertainty over concluding they were pregnant on their own also reflected the fact that some women do experience irregular menstrual cycles. It becomes even more uncertain whether one is pregnant or not when one is using some form of contraception, as Kungo, a 26 year-old HIV-negative mother of two explained.

> *Why I went to the clinic? I was not sure whether I was pregnant or not. I use the pill to prevent [pregnancy]. I noticed by missing my period for two months. ... sometimes, yes it does not come, though not completely because sometimes it is just for a day and very small amounts, this time for two consecutive months nothing was coming. That's when I decided to go to the clinic because there they will do a pregnancy test for you before they register you.*

The above excerpts reveal some of the contextual nuances associated with pregnancy and initial ANC attendance. There is a common association of missing a period followed by ANC attendance to confirm pregnancy. Unlike in other African countries, conducting a pregnancy test is a routine initial step when registering a woman for ANC in Botswana, something that is cost-free across all levels of the health system where ANC is offered. Other countries in Africa, for instance Kenya and Malawi, often require a fee that many simply cannot afford; e.g., about US$2 in Kenya (Pell *et al.*, 2013). In Ghana, pregnancy tests are limited to cases where a woman is uncertain about whether she is pregnant (i.e., they are not routine), while in other places (e.g., Kenya and Malawi again) women can even be instructed to return home and come again when able to confirm their pregnancies – usually using amenorrhea after 12 weeks (Pell *et al.*, 2013). But women in Botswana do enjoy entitlement to a routine pregnancy test whenever they present at an MCH unit indicating that they suspect they are pregnant or have come to register for ANC – and women who attend ANC are clearly aware of the availability of such a test.

7.2.1.2 Facility delivery

The desire or intention to deliver at a health facility was also indicated by all 27 women who had attended ANC to be one of their reasons for doing so. First, most women (18 of the 27, 66.7 percent) saw initiating ANC as a way to receive an ANC booklet (or 'card' as it is commonly referred to by women), which then entitled them to 'admission'

to a maternity ward. When the time for delivery came, healthcare providers would assist you better if you had an ANC obstetric booklet showing that you had been attending ANC than if you did not have one. Bareetsi, a 31 year-old HIV-negative mother of two stated that she had attended ANC because otherwise the healthcare providers would not have helped her – "They (healthcare providers) will not help you if you do not attend ANC when you are still pregnant and you just come when you are having the baby. I was afraid of them."

Echoing similar fears, Lopang, a 30 year-old HIV-positive mother of two stated:

> *[A]lso, if you want to deliver at the hospital without the nurses shouting at you while they are helping you to deliver, you should make sure you come to the clinic when you are still pregnant! You cannot just come to the hospital when you are about to deliver, they don't like it at all. Some of them will not even help you.*

Callous treatment by nurses/midwives in the maternity ward of mothers presenting without ANC booklets had also motivated some women (7 of the 18 women who saw attending ANC as a way to receive an ANC booklet, 38.9 percent). The frequency of visits by women who had attended ANC just to obtain the booklet ranged from only one visit to about three visits. One of these women was an indifferent young lady called Segolame, a 24 year-old HIV-negative mother of two who had first attended ANC very late (in her third trimester). "Ah, I attended once only, just to get the booklet which they always ask about when you come to have the baby …."

Another mother (Medy, a 42 year-old HIV-positive mother of six) who made her first ANC visit when she was eight months pregnant and had attended twice had this to say:

> *I also went to the clinic to register so that I could deliver at the hospital. When you don't have the booklet they won't help you well, all you will get is people shouting at you.*

In an interview with one of the midwives at PPH, Mma Mokgweetsi, this issue was discussed to get her reaction concerning it. As a key informant she opined that women generally understood the benefits of ANC and delivering at the hospital, and that was why they attended. When she was told some women had indicated that they had attended ANC simply to get the ANC booklet to access delivery services she had this to say:

> *You know women like vilifying nurses unnecessarily – how can we refuse to help them just because they did not attend ANC? When a woman presents to us only when in all that labour pain, it is really not good because it makes it hard to give her good care. We don't know anything about her pregnancy or any history regarding her – that is why we really encourage them to come to the clinic. Women like saying they are scolded, and maybe we do, but only because we are trying to tell them it is not OK to miss attending the clinic.*

The sentiment of attending ANC to gain access to delivery services espoused by some mothers from the Palapye area is not peculiar to them because women in other parts of sub-Saharan Africa have echoed it. Women in Kenya, Malawi and Ghana, for example, have also mentioned obtaining an ANC or birth 'card' as a motivation for ANC attendance – although this was less often the case in Malawi and Ghana than in Kenya (Pell, 2013). It was also reported in Pell's (2013) study that women claimed that without a card they would be reprimanded by healthcare providers or even refused care.

Not all the women who attended ANC as part of a plan to deliver at the hospital did so to avoid callous treatment from nurses for presenting without an ANC booklet. Three women clearly articulated how it was beneficial to have an ANC booklet at the time of presenting for delivery at a health facility.

> *[W]hen you attend clinic the nurses ask you some questions, whether you once delivered by operation and they also tell you when you can expect to deliver. As you talk with them, they write in your ANC booklet. When you come for delivery you don't need to be asked these questions again,*

you just give them your ANC booklet and they help you from there. I have seen some women coming for delivery when they did not attend the clinic. You cannot answer many questions when you are in that pain. (Freda, 29 year-old HIV-positive mother of two).

[Y]ou can also see the nurses writing in your ANC booklet, like Mma Rramogwera always told me it will be better for me to deliver by operation because she said I have a narrow waist (pelvic bone). So you will find that it is good when everything is written down for what should happen for delivery for other nurses to know, and when you know what needs to be done and you see it done too. (Bernice, 23 year-old HIV-negative mother of one).

Attending ANC is important ... the booklet is where they write many things that remind you, like when you should come back for a check-up, information about whether you have any illnesses that can affect your pregnancy or your delivery. When the time comes for delivery you are able to remember and go to the hospital in time because it is written there in your ANC booklet for the nurses at maternity to see as well, and they won't just send you away saying it is not yet time to deliver. (Orefilwe, 33 year-old HIV-positive mother of one).

7.2.1.3 Perceived health benefits

Informants who had attended ANC stated that they had also attended it because it was during these consultations that they were able to receive healthcare they needed for themselves and their unborn babies. Commenting on why she had attended ANC during her most recent pregnancy, Boitshoko, a 28 year-old HIV-positive mother of two had this to say:

When you attend ANC they check you for diseases and you are able to receive vaccinations and other medicines if you have ill-health to make sure that you remain healthy together with the baby. I also wanted to take the vaccines that every pregnant woman should take.

Neo, a 23 year-old, HIV positive mother of one, also mentioned attending ANC for the health benefits for herself and her unborn child when she said:

You know these days we are sick. When you attend clinic during pregnancy they check if you have any illness that may affect your baby. There are also some vaccinations that you have to be given when you are

pregnant which are good for the baby. I also attended because I wanted them to check that the pregnancy was progressing well and the baby was in the right position.

Another mother who attended ANC, Segomotso, a 27 year-old HIV-positive mother of two, said:

You, as an individual, sometimes may not know when your pregnancy is not progressing well. Sometimes you can just stay away without attending ANC; meanwhile you are carrying a baby who has long died. But when you attend clinic, the nurses always check that the baby's heart is beating well. Ha ngwana a sa tshameke *(if the baby is not moving/kicking), they'll ask you "Madam, why is this baby not moving?" you see, and they check if everything is OK ....*

Women who attended ANC indicated that their concern over ill-health and their understanding of the impact of pregnancy on their health was a motivation for attending ANC. Women talked about their health conditions prior to becoming pregnant and the constant concern they had over how pregnancy was going to impact on their overall health as well as on that of their unborn children. One of the women was a 31 year-old HIV-positive mother of three, Aobakwe, who had participated in the PMTCT program for her previous child as well as the most recent one. Two of Aobakwe's children were HIV-negative, and she had found out that she was HIV-positive when pregnant with her second child, who was now three years old. She had been on lifelong ARVs for at least a year before most recently becoming pregnant, and had been particularly worried that she may not be as strong (healthy) as she had been when having her second child.

I am living with the virus, and when I found out that I was pregnant I became concerned because these days ke tshabelelwa ke go lwalanyana mothoho hela *(I am prone to illness) and just don't always feel very well. I attended clinic so they would check if the pregnancy was progressing well and also to make sure that I participated in the PMTCT program, so that at least the baby did not get infected.*

Another woman, who had also attended ANC, mentioned that her motivation had been to receive any healthcare that she or her unborn baby may need. She also described how she attended all subsequent visits as advised because she wanted to ensure that if there was any problem she would know about it in time and receive help for it. Asked why she attended ANC, Baaitse, a 30 year-old HIV-negative mother of three commented:

> *Going to the clinic is important because you can stay at home thinking that everything is OK and you really may not be aware that there are problems, or maybe you find that the baby is not correctly positioned. They check you to make sure everything is OK, even though sometimes* ba a re lathelela (*they don't care). I always had body aches all over and just couldn't understand what it was, and I worried a lot about this. Maybe if I didn't attend I would not have known that I was pregnant with twins. I just found that I was prone to have shortness of breath, and I went and told the nurse at the clinic. Really as a person, you just need to attend ANC.*

There was general knowledge among all women interviewed who had attended ANC that in attending it one received several medical interventions, particularly those intended for better pregnancy outcomes. Women repeatedly mentioned attending ANC to receive *mekento ya ha ole moimana* (vaccinations in pregnancy), to test for illnesses that might affect the pregnancy, for routine weight measurement to monitor growth, for the baby's heartbeat to be listened to, to confirm that the pregnancy was progressing well, for abdominal palpation (most referred to this as *tshidilo*, or what women perceived to be massage), as well as to ensure the baby was positioned properly. Testing for HIV and participating in the PMTCT program were also mentioned by women who attended ANC. The following are examples of statements that were particularly common in the interviews with women:

> *I wanted to test for the virus and make sure that if I was found with one I could take part in the PMTCT program* (Portia, 19 year-old HIV-negative mother of one).

I wanted to have the nurses check that I was healthy, that I did not have the virus and to receive any help that I may need while pregnant (Phukie, 31 year-old HIV-positive mother of five).

I wanted to make sure the pregnancy was progressing well and the baby was protected from the virus (Tsholo, 33 year-old HIV-positive mother of four).

I attended the clinic because when I went to Tebelopele (an HIV/AIDS voluntary testing facility), *I was told I was HIV-positive, so I had to participate in the PMTCT program* (Tshepo, 22 year-old HIV-positive mother of two).

I wanted to be routinely weighed so that I could know the baby was growing well and protected from the virus (Tina, 34 year-old HIV-positive mother of four).

Healthcare providers who were interviewed stated that they provided health education to women, which gave them valuable information to help them understand the benefits of attending ANC. Mma Olopeng (a midwife at Khurumela Clinic) explained the general care provided to women who attend ANC, and opined that good health experiences and better pregnancy outcomes encouraged women to attend ANC:

Women understand the benefits of attending ANC while pregnant. In their first consultation, women are provided with several screening tests, including HIV testing, and if any illnesses are found a woman is informed and treated accordingly. We weigh the women and continue to periodically examine them to ensure the pregnancy is progressing well. We also make every effort to manage any other illnesses a woman may have that can have adverse effect on her pregnancy, so sometimes what we do for individual women may vary. All in all, we follow the instructions that you see noted here [pointing to the instructions included at the back of the obstetric booklet]. *Women understand that there are some vaccinations they ought to receive when pregnant; occasionally you'll hear a woman asking you about these vaccinations even before they are scheduled to receive them. They also often ask for vitamin supplements.*

One woman who appreciated the benefits of health education messages she had received while attending ANC stated that:

> *At the clinic they advise us on a number of things, how we must take care of ourselves when pregnant. They will tell you how to get up from bed so that you don't injure your back or fall. They also tell us the foods we need to eat during pregnancy that are good for a pregnant woman. They tell us many useful things* (Olorato, 32 year-old HIV-negative mother of three).

ANC attendance was regarded by most women as a guarantor of better pregnancy outcomes. By accessing healthcare during pregnancy women wanted to remain healthy or improve their health and assist in giving birth to a healthy baby. Knowing the pregnancy was progressing well gave a woman confidence that she was in control of her pregnancy and her health. As one woman suggested:

> *When you are pregnant you are constantly worried because you cannot see what is happening inside you. Sometimes you feel and see changes in your body, like you start to swell on your hands and legs, so if you just stay at home you won't know that is not good for you when you are pregnant. But when you attend ANC the nurses will tell you it is not good and give you some medicine to treat the swelling. So you begin to understand and know better the things that are OK to happen as the pregnancy progresses, you begin to worry less that something may be wrong* (Bonolo, 23 year-old HIV-negative mother of one).

It is worth noting here that it was not only the women who did attend ANC who credited its health benefits. Three women who had not attended ANC during their most recent pregnancies, when asked what came to their mind when ANC was mentioned and why they thought it might be important to attend ANC, had this to say:

> Tshidilo? *(Massage – a term used to refer generally to ANC) Things like checking you for diseases, weight and health education relating to good pregnancy. Yes, it is important because as an individual you cannot know very well when something is not right, so at the clinic they can check.* (Puna, 21 year-old HIV-negative mother of one).

> *I think of things like massage, the nurses give massages because sometimes you experience some pains because the baby is not positioned properly, so they help to move the baby into the right position. You also get vaccines that are given during pregnancy. It is good, though, because the nurses can check your health and see if your pregnancy is progressing well and they give advice on what to expect and what to do.*

Also when you are living with the virus you are able to participate in PMTCT (Molly, 40 year-old HIV-positive mother of three).

[Y]es, it is good to attend the clinic when you are pregnant, because then you can get help to make sure you are healthy and the baby is healthy too. Also there are some vaccines that a pregnant woman is given when they go to the clinic (Dinah, 33 year-old HIV-positive mother of four).

Two other women who did not attend ANC also acknowledged that they did understand it was important to attend ANC because of its health benefits. They mentioned things like being able to talk to the nurses about health problems and the monitoring of the pregnancy to ensure the baby was growing well. Remarking on what she knew about ANC, one of the women, Kago, a 31 year-old HIV-negative mother of four stated that "through ANC you can get to know about your health and the health of the baby you are pregnant with".

7.2.1.4 Guidance and counselling

Twenty-three of the 27 women who had attended ANC (85.1 percent) also mentioned that they had attended ANC in order to talk to someone during a time that caused them anxiety and some fearfulness, was overwhelming, or was difficult or depressing for them. This need for support was expressed well in the statements of two women who had attended ANC to seek guidance and counselling to deal with difficult or confusing issues surrounding their pregnancies:

Tshidilo *(ANC) is important ... but I also was just overwhelmed/mixed up, so I really just needed help, I wanted to talk to someone ... I didn't know what to do. I have four children, I'm not working – I survive by doing people's laundry or sweeping their yards and they pay peanuts. The money is not enough for anything at all.* (Lebo, 34 year-old HIV-positive mother of four).

I was very confused you know, rre yo ke nnang le ene *(my partner) was telling me that he didn't believe that I was pregnant with his child because he couldn't make me pregnant; his mother was supporting him*

> *too ... when he was young he got hurt* mo bonneng (*in his private parts). It caused us to fight because it was like I was cheating on him. Hey, I was stressed, you know, and I thought maybe at the clinic I could talk to the nurses and they could also ask him to come and they could talk to him.* (Wame, 34 year-old HIV-positive mother of four).

Pregnancy can be looked at as a natural process in a woman's life, but there is no doubt that in the context of HIV/AIDS it and childbirth have been overly medicalized. Furthermore, also in the context of HIV/AIDS where there is a legitimate need to ensure roll-out of treatment and care interventions, the focus on task completion (e.g., active case finding and enrolment in PMTCT) means that women simply get thrown into a medical milieu that only compounds the potentially distressing state arising from their pregnancies.

The majority of women interviewed for this thesis had unplanned pregnancies, which meant that the physical stress placed upon their bodies by pregnancy itself was compounded by that pregnancy being untimely as well. An unplanned pregnancy means that a woman has engaged in unprotected sex, which is well understood to be risky in the context of the prevailing HIV prevalence in the population. It can also mean that a woman does not have adequate economic resources to provide for the child, that she does not have adequate support for her pregnancy (e.g., her boyfriend or partner may not want a child), or she may have to trade-off other things in her life to accommodate the pregnancy. Thus, to hear women expressing a need for guidance and counselling during this time in their lives is not surprising. The question that remains is, to what extent were women's expectations of and need for guidance and counselling met during ANC consultations?

Women's descriptions of their experience in this regard revealed a disconnect between their expectation (or need) and the objectives of ANC. While some women were able to find that one healthcare worker who was willing to listen to them and provide guidance and counselling (including referring them to social workers where appropriate), many women indicated that their ANC consultations did not provide much opportunity for them to talk about other concerns they were dealing with:

> *When you come in and greet someone, you can know then if this is someone who cares and where you can talk to them about anything else. But when someone does not even look up to ask you how you are, you just keep quiet and let her do what she must do and you go ... sometimes you come again and find a nurse who is different, then you are able to talk to her and she helps you a lot* (Lebo, 34 year-old HIV-positive mother of four).

Lebo indicated further that she had changed her ANC venue to a clinic that was much further away from her place of residence because the nurse she was comfortable with and who always listened to her and helped her sort through her struggles had been transferred there. This description focusing upon first impressions or personality cues was common in women's responses, indicating how they gauged whether they could open up to their healthcare providers to seek advice on other personal matters. Although most women felt they could not open up unless they felt their healthcare provider was welcoming, there were some who decided to seek guidance and counselling when presenting for ANC regardless.

In a conversation, one of the midwives at PPH, Mma Keitsile, explained that they attempted to provide as much guidance and counselling, or advice, as they could, but mainly recommended that women be referred to social workers. She indicated that this was particularly important because social workers were better placed to follow up

women at home than nurses were. Elaborating further on the provision of guidance and counselling, she commented:

> *We are aware that women have various challenges when they come for ANC, and they should be provided with any possible advice and referred to social workers when necessary. The problem is that for us we really can't provide guidance and counselling when you have many other women waiting outside. I mean we try, but how much of it we can do is limited. This is why we encourage women to attend the morning health education sessions, because that is where women have the opportunity to ask questions.*

7.2.2 Reasons women did not attend ANC

There were nine informants who had not attended ANC during their most recent pregnancies. Four of the women were HIV-positive and five were HIV-negative. Of the women who were HIV-positive, two knew their HIV status prior to the reference pregnancy, one having been a PMTCT participant during her previous pregnancy, and neither of these women was on lifelong ART at the time of the interview. Two other women had become aware of their positive status at delivery, and unaware of their status prior to that had never considered themselves to be ill during pregnancy. To present the reasons women gave for not attending ANC, Lesego's story is presented first as a case study. In some ways her story is unusual, but it may well resonate with the experiences of many other single and cohabiting women.

7.2.2.1 Case study 1 – Lesego's story

> Lesego is an HIV-negative mother of three children; she is 32 years old and lives with the father of her three children in her maternal home – a big yard with several 1-3 roomed houses. She lives in a three-roomed house with her family. When Lesego realized she was pregnant (because she missed her period) she immediately told her partner. Lesego says her partner did not put her in a situation where she could admit that she was pregnant. "Let me just say he did not support me". He constantly blamed her for being careless and allowing herself to become pregnant, even though she knew they already had two children who they were struggling to look after.

> In this circumstance Lesego became increasingly frustrated and depressed (sad and crying all the time), but mostly she convinced herself that maybe she was not really pregnant – days, weeks and months went by with Lesego having this deep-seated conflict inside her that maybe she was not pregnant. As the pregnancy progressed and became physically evident and unable to be denied, Lesego only became more and more stressed. "I just felt like I was not myself most times, *kena le dikgothang tse di ntsi tota, oaitse ke sa itse gore go diragala eng ka nna"* (I had very conflicting feelings, you know I just didn't know what was happening with me). Through the nine months of her pregnancy Lesego said she did not necessarily make a decision that she was going to attend or not going to attend ANC. She was simply overwhelmed and consumed with worry the entire time – the pregnancy, two other children she and her partner were struggling to look after, and her partner blaming her for adding to their hardship and not supporting her at all. "In the end, the months just went by, and before I knew it I was due to deliver" Lesego recalled.

Lesego's story is unusual, first, because it is not very common for a cohabiting family to live at the female partner's maternal home. If the woman and her children are living at her maternal home, the man will often be 'visiting' rather than living with them there. Second, Lesego began by acknowledging that she was pregnant, only moving into denial of the pregnancy after her partner failed to give her the support she needed during her unplanned and obviously unwanted pregnancy. Most women are rather in denial from the start, especially when the pregnancy is unplanned and unwanted, and at such times they tend not to take note of early signs until their pregnancy is well advanced and cannot be denied any longer. These women tend to attend ANC late or very late rather than not at all (see section 7.2.3.2). In other ways, Lesego's story probably resonates with the experiences of many single and cohabiting women who encounter unplanned and unwanted pregnancies, in particular with their need for psychosocial support from partners and other family members.

7.2.2.2 Lack of psychosocial support

Pointing to their need for psychosocial support, women who had not attended ANC cited issues with their mental well-being, noting feelings of sadness, guilt, stress and fear as well as other social problems such as stigma, disclosure and low socio-economic status. One thing that was observed at the PPH ANC unit, for instance, was that consultation rooms were labelled, with labels such as 'PMTCT', 'Consultation Room 1', etc. This meant that women enrolled in the PMTCT program could be easily identified as they entered or left the PMTCT consultancy room. Because HIV is still stigmatized, labelling of this type could deter women from presenting for services, although this was not an issue raised by any of the women interviewed for this thesis.

Attending ANC and testing for HIV means that a woman who tests positive and opts to enrol in the PMTCT program will be encouraged to disclose her status to her family or partner. Disclosure of HIV status carries various implications for women, many of whom are economically dependent upon their partners and other family members. Fear of abandonment as well as of being treated or viewed differently was indicated by women to be a contributor to hesitation over attending ANC. As one woman stated:

> *But also let me just say I was afraid to test for HIV and be told I have the virus, what would I say to who, really? People start having various thoughts about you when you tell them you have the virus, and sometimes even the person who made you pregnant can leave because you have the virus* (Tuduetso, 27 year-old HIV-positive mother of two).

Pregnancy is often a demanding life circumstance for women and can be stressful. In the context of prevalent HIV/AIDS among women of childbearing age, news of a pregnancy can be devastating and render a woman unable to cope. It is therefore not surprising that women's need for psychosocial support during pregnancy is amplified in

such a context. Added to that is the fact that many pregnancies are unplanned and even unwanted.

Seven of the nine women who had not attended ANC (including Lesego – 77.8 percent) indicated that they had failed to attend due to a lack of psychosocial support, particularly from close family members such as a husband, cohabiting partner, boyfriend, parents and siblings. These women felt overwhelmed and blamed themselves for not taking the necessary precautions to protect themselves against pregnancy or else simply regretted not taking them. This regret and a sense of bewilderment and disorientation were captured well by the statements of two women known to be HIV-positive prior to the reference pregnancy:

> *Really, madam, I was just mixed up, and had stress, you know, not knowing who to talk to who would understand – the nurses say we do things deliberately and are careless even though we know we are living with the virus. When my husband eventually realised I was pregnant it became very difficult in the home. Most of the time I just felt like I'd go crazy. I cried a lot, but he didn't care, we just didn't talk about it, maybe he was scared too ...* kele hoo hela *(time just went by), until I delivered* (Molly, 40 year-old HIV-positive mother of three).

> *Living with the virus, really, among people who don't put you in a situation where you can accept your status is very hard. I don't know, at first I thought my mother was just saddened by the fact that I have the virus, but it has not been easy since I told her I have the virus, and after losing my son ... now how will I tell her I am pregnant again? I was very sad and angry at myself and everyone, so I just kept quiet. I cried a lot and was so frustrated with everything* (Faye, 25 year-old HIV-positive mother of two).

Women who had not attended ANC went on to described a range of factors associated with lack of psychosocial support from immediate family members that contributed to them experiencing difficulty in attending ANC. Emanating mainly from physical fatigue and mental distress during pregnancy, they highlighted their need for assistance with

daily household chores, which would go a long way toward giving them time to attend to their own health, including attending ANC. Women acknowledged that they did not easily manage to find adaptive strategies to deal with their pregnancies in combination with the activities of their daily living. Pregnancy for all but one of them had been unplanned, and balancing its demands with other demands in their lives had been difficult. Most evident in the women's accounts of their ANC non-attendance was a lack of a positive outlook on life given other pressing issues in their family lives. This had led to a failure to disclose the pregnancy for as long as possible.

7.2.2.3 Perceptions about ANC

There was a mixture of issues described by some of the women who had not attended ANC (5 of 9, 55.6 percent) which pointed to negative general perceptions regarding ANC services. Although these issues were commonly raised among women who had attended ANC as well, it was clear that they had deterred some women from attending ANC altogether. Others had chosen to attend ANC in spite of them.

One element regarding ANC non-attendees' perceptions of ANC was the idea that pregnancy was not an illness.

> *Why I didn't go to clinic? Ah! Being pregnant* kana *(really) is not an illness. At the clinic you queue only to be weighed and to have the nurses shouting at you, it's tiring.* (Karabo, 43 year-old HIV-positive mother of four).

> *Ah! The nurses don't really massage, they just touch you here and there (demonstrating by touching her tummy). In any case you are not really sick. So I preferred to go to the woman [a traditional masseuse] who massages.* (Tuduetso, 27 year-old HIV-positive mother of two).

There was also a general perception among some women that ANC services were not all that important, and so they did not prioritize attending ANC until it was very late to be doing so for the first time, for fear of being scolded by nurses. One of the women who had not attended ANC was Tshidi, a 25 year-old HIV-negative mother of two who made a living as a hawker. Tending her stall was her main priority from Monday to Saturday, and clinics were closed on Sunday:

> *Hey, really I didn't have anyone to work for me so I could go to the clinic. I was lucky because my pregnancy did not give me any problems. When I eventually thought I could ask my sister to man my stall I was about 8 months, knowing that the nurses were going to shout at me for coming late, so ah, I stayed [away].*

7.2.2.4 Callous treatment from nurses

Another complaint voiced by seven of the nine women who had not attended ANC (77.8 percent) was the callous (mean and fear-inducing) treatment they anticipated receiving from nurses. This included poor communication, where nurses were perceived to be rude and to belittle patients, shouting at and reprimanding them, not showing empathy, not giving women an opportunity to talk about their concerns, and displaying negative or indifferent attitudes. Most of these women indicated that they found pregnancy challenging both emotionally and physically, especially when not planned. Those who were HIV-positive in particular considered that healthcare providers did not expect them to have children, or any more children, and when they did deemed them irresponsible. Allegedly providers would sometimes say things like "Really, if you do not care about your own health yourself, what do you expect us to do for you?"

The attitudes of healthcare workers, perceived or previously encountered, deterred these women from attending ANC. This was further compounded by the way in which some health education lessons had been conducted when women had attended ANC for

previous pregnancies. "The nurses teach about us. They may not mention your name, but you know when they are talking about a problem you told them" (Molly, 40 year-old HIV-positive mother of three). While drawing from other women's experiences may be necessary sometimes to help convey a message, the problem is that it is not always done in a way that women in attendance feel at ease with. Women feel that their experiences are used as examples of bad practices, and although their names may not be mentioned they still feel nurses did not have to talk in such a way about something they had disclosed to them in confidence. One possible difficulty here is that some bad practices are so common that women may misconstrue general references to them as failures to maintain personal confidences.

7.2.3 Timing of ANC attendance

One of the objectives of this thesis was to gain an understanding of factors that influence the timing of women's first ANC consultations. The data from obstetric records revealed that only 15.2 percent of women who delivered at PPH during the five-year reference period and had attended ANC had had their first consultation "on-time" (within the first trimester as recommended by WHO). The mean gestational age at first ANC visit among the sampled women was 22.2 weeks. Women who were recruited for in-depth face-to-face interviews and had attended ANC were in two groups: those who had attended on-time (i.e., within three months of conception) and those who had attended late (i.e., beyond three months' gestational age).

7.2.3.1 On-time attendees

Ten in-depth interviewees had attended ANC on time. Of these, four self-reported that they had made their first visit within two months and six that they had done so within

three months gestation. Women who had attended ANC on time had done so mainly because they were concerned after missing their periods and wanted to confirm whether they were pregnant. They also wanted to ensure that if they were found to be pregnant and HIV-positive they could participate in the PMTCT program as early as possible to protect their children.

Explaining why she had attended ANC early, Bernice, a 23 year-old HIV-negative primigravida said:

> *I missed my period, which was unusual for me, so I was very scared and just needed to know once and for all if I was pregnant or not, so I decided it was better to just go to the clinic to confirm that it was a pregnancy.*

The desire to confirm pregnancy leading to early ANC attendance was also caused by anticipation and excitement surrounding pregnancy, as expressed by one women who said "perhaps I had loved the idea of being pregnant, too, and I wanted everything to go well" (Nkamo, 26 year-old HIV-negative mother of one). Again, women who attended early expressed an understanding of the benefits of early ANC attendance and indicated that they wanted to ensure they and their children were healthy.

Segomotso, a 27 year-old HIV-positive mother of two explained that:

> *I also wanted to test for HIV, even though I was afraid, but I could not be scared forever. I had to know, and they encouraged me to participate in the PMTCT program so the baby would not be infected.*

Two older women among the on-time attendees indicated that they had attended ANC early because they were worried about being pregnant at their age. This concern was particularly voiced by Joyce, (a 36 year-old HIV-positive mother of three) who stated that:

Hey, it was just a problem, indeed being pregnant when you are older is not good. You really worry if you are going to have ngwana yo segole wa mopakwana *(a child who is disabled, like Down syndrome or something like that). I went to the clinic hoping that perhaps they could help me, and I also wanted to test for HIV.*

7.2.3.2 Late attendees

In-depth interviewees who made their first ANC visit beyond three months of gestational age were late attendees, and there were 17 women in this group. Of these, three reported having begun ANC at gestational age four months (i.e., between four and five months), seven at five months, four at six months, two at eight months and one at nine months.

One of the main reasons cited by women for initiating ANC late was the commonly shared understanding (12 of the 17 late attendees mentioned it, 70.6 percent) that ANC should ideally be initiated at or after three months. These women reported that nurses generally did not advise a woman to come for ANC until they were three months pregnant. There was also a view held by some women who had initiated ANC late that "it is good to wait sometimes, so you don't get very excited thinking that you are pregnant when you are not, or you put bad luck on yourself" (Portia, 19 year-old HIV-negative mother of one). Women who had initiated ANC at eight or nine months did acknowledge that they had registered rather late, and that this was not what healthcare providers would normally recommend. But mainly because of their perceptions of ANC services, they had not seen the need to come earlier.

Asked why she had only registered for ANC when she was eight months pregnant, Medy, a 42 year-old HIV-positive mother of six stated:

> *Really I didn't see the point of going in the first months of pregnancy (or early). It's not like they do much at the clinic. As long as you attend before you give birth so they can check the baby's position I think it is fine. Indeed they say we should come when we are three months or so, you see, but I was just fine.*

The women's descriptions of factors that contributed to their late initiation of ANC did not reflect barriers to seeking care *per se*. The factors raised reflected mainly personal knowledge of and perceptions about pregnancy, ANC and the healthcare system in general. Women who attended late did not see ANC as having many benefits, so they simply tended to be 'lazy' about attending, or they did not prioritize attending. In the same vein, they delayed attending to avoid having to make many visits before they delivered, stating that "if you don't have any ill-health and are feeling OK it is not necessary, because they don't do much at the clinic" (Segolame, 24 year-old HIV-negative mother of two). Apart from these general misconceptions and lack of knowledge about ANC, women went on to describe other factors that deterred them from seeking ANC services early, such as the time required to attend a clinic versus the time needed to earn a living.

Having initiated ANC when she was seven months pregnant, Lopang, a 30 year-old HIV-positive mother of two who earned a living by washing people's clothes explained that:

> *I only started when I was seven months because I did not have time to go there so many times, but at least I could make sure I went when I was close to delivering ... I have to go around looking for work. I can't say I am going to the clinic first or say "I'll come tomorrow", they'll get someone else.*

Another factor highlighted by women who had initiated ANC late was lack of recognition of pregnancy. Some women (8 of 17, 47.1 percent) who had waited beyond

three months to attend ANC had done so because, although they had missed their periods, they were not sure that they were in fact pregnant. These women indicated that they had experienced irregular periods from time to time, so that concluding that they might be pregnant was not always straightforward. Other women, however, had delayed attending ANC because they were in denial (4 of 17, 23.5 percent). Each of these women had waited for up to six months, during which time they had missed several menstrual periods. One of these women, Lebo, a 34 year-old HIV-positive mother of four, observed that "it is just that I could not believe I was pregnant, but I also was just overwhelmed and mixed up …."

Healthcare workers' attitudes were also identified by several women (9 of 17, 52.9 percent) to be a reason they had delayed initiating ANC. They cited problematic interactions with healthcare providers, who had indicated that they should present at the clinic very early in the morning, even though it was not supposed to close until 4:30 pm. This sentiment was encapsulated in one woman's description:

> *Ah! The first time I went to register I think I was three months, and the nurse there told me to come back the following day, saying "How can you come at this time?" She did not even ask me why I came at that time, just said that I should come tomorrow. Why? So I later went to Kediretswe clinic, I think I was four months then* (Bonolo, 23 year-old HIV-negative mother of one).

Other women had been affected by health system constraints, which in the end had delayed their ANC initiation. Referring to this, eight women noted that they would have initiated ANC earlier if they had been assisted the first time they had gone to register. These women had gone to clinics to register, but had found no nurse or midwife available, and nobody else able to assist them. Five had gone to a health post, two to Khurumela clinic and another to the Extension Three clinic. Moreover, it was not just

the absence of healthcare workers that was mentioned. Two women indicated that the first time they had gone to register at PPH for ANC they had been told that the laboratory was 'closed' (referring to the prevalent practice of requiring women to first present at the MCH unit before noon to allow for blood specimen collection that is preferably done in the mornings at the laboratory), and they should come back the following day. Like the MCH clinic, the laboratory at PPH closes at 4.30 pm. But it appears that due to operational issues, including shortages of staff, the need to conduct and document test results and other diagnostic limitations, the hours for specimen collection are even further restricted, usually to not later than 12 noon. Interviews with three healthcare providers, including a registered nurse, a lay counsellor and a midwife revealed varied reasons for encouraging women to present for ANC and PNC in the mornings and not in the afternoons. Some of their responses were as follows:

> *Really I cannot say there is a scientific basis to it, it is really a situation brought on by the difficulty of a shortage of staff. Like as head of unit you know later in the day you'll get caught up in other activities, including meetings, especially here at clinics, and sometimes you will be alone ....* (Mma Junkie, a clinic midwife).

> *It is done to avoid situations where there is interference with some tests, such as BP [blood pressure], which may indicate high readings simply because the woman came later in the day and had her BP affected by other things that did not mean she was at any risk ....* (Mma Lebotse, registered nurse at PPH).

> *We don't return them ... they are encouraged to come early to allow for specimen collection and the [turnaround for] results, which the laboratory technicians must also enter into the system, so it takes time* (Mma Ngwako, a lay counsellor).

Other reasons advanced by Mma Junkie included midwives preferring women to present in the morning because it was the best time for the midwife – she was still alert, able to concentrate, pay more attention and therefore provide better care. She also

mentioned that early attendance was preferred because "when a woman comes at such times as 3.00 pm and you can find that it is a woman who requires a priority CD4 count, which does not give enough time at all". Asked to comment on what healthcare workers did in the afternoons when virtually no women presented in the afternoons, Mma Junkie indicated that it made no difference because healthcare providers then carried on with other duties, including providing clinical care to women presenting for other reproductive health services. It was also indicated that healthcare providers sometimes used this time to do outreach work, including home visits to follow up on women.

In general, it is clear that there are some complex operational issues in providing maternal and child health services efficiently, affecting both the women and healthcare providers. Challenges relating to process implementation and associated health system constraints, including human resource shortages and weak supervisory and governance mechanisms, are clearly some of the challenges facing the country's health system. Workflow process re-engineering needs to be carried out, first to identify bottlenecks, then to ensure consistency in service provision as well as to find better ways to make the process of care efficient, with healthcare providers able to account for all the time they are supposed or expected to be providing care or to be on duty. Otherwise, as it is, women can be turned away while healthcare providers are 'simply idling' at MCH clinics. Another option is to consider introducing appointment scheduling, so that women know when to present and are not turned away when arriving later in the day to avoid queues (see Chapter 8). Appointment scheduling will also ensure that healthcare providers are able to devote sufficient time to each woman they consult, and thereby not only improve the quality of care they provide but also build trusting patient-provider relationships. There may well be a case as well for allowing for pregnancy-related tests,

especially the pregnancy test that most women seek, to be done separately from other blood-based tests, which could be arranged for subsequent visits. While this may pose a risk of women not turning up for subsequent visits, the benefits of providing a woman at least with the immediate care she needs and has verbalised could assist efforts to build trust in the healthcare system.

Other points raised by women who attended ANC late, and some who did not attend at all, included such factors as lacking the taxi fare to go to the nearest clinic; having no one to look after other children while going to the clinic; and superstitions, e.g., a pregnancy being considered vulnerable to curses during the first three months, or before it was visible. However, these factors individually were not considered to fully account for the extent of women's health service use because they were only mentioned or acknowledged in the course of generalised comment, not as issues that had affected ANC attendance during reference pregnancies.

7.2.4 PMTCT uptake and retention

In the midst of fear and despair, provision of antiretroviral treatment provides hope and new possibilities for HIV-positive women and their children. PMTCT in particular has the potential to allow an HIV-positive mother to give birth to, nurture and bring up an HIV-free child. Two groups of women were interviewed with regard to PMTCT uptake and retention. The first group consisted of 11 HIV-positive women who had attended ANC and been enrolled in the PMTCT program and another seven women who had attended ANC but had not enrolled in PMTCT. The second group comprised three women from the first group who had been lost to follow up from the PMTCT program.

Findings from the subgroup of seven women from the first group are presented first, noting that although women in this subgroup were not the focus of this thesis the issues they raised are pertinent to the overall understanding of women's health service use in the context of HIV/AIDS. Among the seven HIV-positive women who had not enrolled in the PMTCT program during their reference pregnancies, disbelief in and denial of their HIV diagnosis was one of the primary reasons for failure to enrol. After attending ANC for the first time late in their pregnancies (three at 8 months and one at 6 months), four of these women went on to seek confirmatory HIV tests at other clinics or from *Tebelopelo* (an HIV voluntary testing centre). The other three women noted that they had wanted to enrol in the program, but shock and bewilderment had hindered them from doing so. As one woman said, "Really, I could not understand myself, or what was happening. I didn't know what to believe" (Metsi, 26 year-old HIV-positive mother of two). The situation with this subgroup of women brings into focus the issues of follow up, documentation, and pre-test and post-test counselling in PMTCT (see Chapter 8 for recommendation to address these problems).

In an interview with Mma Basupi (a hospital lay counsellor) it was pointed out that PMTCT information can be overwhelming for women, many of whom are also dealing with accepting unplanned pregnancies. Indicating the complexity of providing counselling to women who test HIV-positive for the first time at ANC, this is what she had to say:

> *Some women faint when they are given positive results, some when you tell them they are HIV-positive confuse it to mean they have a positive/good health status. So you try to give them a certain amount of information at a time and give them some time to absorb it, to see if they understand and so that you can offer them participation in PMTCT. Some of them* ba a ithoboga *(give in) and enrol, while it takes time for others to accept, and you keep on encouraging them as much as you can.*

All groups of women interviewed knew that mother to child transmission (MTCT) of HIV could occur and that it could be prevented through participation in PMTCT. It was common to hear a woman say she had attended ANC to test for HIV so that if found to be positive she could participate in the PMTCT program to protect her unborn child. Women who did not attend ANC would also mention that participating in the PMTCT program was one of the things a woman could do when asked about the importance of attending ANC. Narratives of recently delivered women and healthcare workers presented in this section point to two sides of the PMTCT program. One side is one of hope for women, children and healthcare providers; the other is one of frustration.

7.2.4.1 Hope

Hope for women mainly had to do with giving birth to an HIV-free baby. A sense of hope brought on by the availability of the PMTCT program was frequently mentioned by women who had attended ANC and enrolled in PMTCT. These women indicated that participating in the PMTCT program had helped them to cope with their pregnancies, especially when they had been unplanned (only two out of the 11 HIV-positive informants who had enrolled in PMTCT had wanted to conceive). This highlights the importance of healthcare workers emphasizing the positive aspect of PMTCT by communicating with women in a manner that assures them of this hope.

Understanding that participating in the PMTCT program would help protect their unborn children from contracting the HIV virus, HIV-positive women saw no other alternative but to take healthcare providers' advice and enrol in the program. Women's desire to protect their children from the HIV virus during pregnancy was encapsulated in the statement of Aobakwe, a 31 year-old HIV-positive mother of three, who

consistent with all women who had enrolled in the program said "I participated in the PMTCT program to prevent the virus from going to the baby". Another woman put it this way: "it is better to leave behind [when you die] a child that does not have the virus, the relatives can look after it better" (Tsholo, 33 year-old HIV-positive mother of four). These women frequently mentioned having received medication during ANC consultations, which then helped to protect their babies. What was not ascertained in conversations with the women (as it was not a focus of the thesis) was their understanding of preventive measures against transmission, and their knowledge of the modes of MTCT – i.e., when and how transmission could occur. Research into this would be helpful, as education programs drawing on it could further ensure children were not exposed to the HIV virus by unknowing mothers.

Healthcare workers also indicated their appreciation of the hope availability of the PMTCT program provided for HIV-positive women. Noting that HIV-positive women who attended ANC, tested for HIV and enrolled in the program could give birth to HIV-negative children, Mma Onkabetse, a lay counsellor at PPH observed:

> *It is really good when a woman who is living with the virus attends ANC and enrols in PMTCT. That is the only way we can stop this HIV. When we protect the children, maybe it can end ... when you are able to tell an HIV-positive mother that her child is HIV-negative it is really good. This makes us happy as healthcare workers.*

It was this sense of hope of giving birth to an HIV-free baby that encouraged women to remain in the PMTCT program during pregnancy in the face of other challenges. The main challenges, especially for women who had just learned of their positive HIV status, included disclosing their status to family members, issues of stigma and senses of guilt and sadness when thinking about dying and leaving behind an orphan.

7.2.4.2 Frustration

Women who were HIV-positive, whether enrolled or not enrolled in PMTCT and whether lost or not lost to follow-up, described harbouring feelings of guilt and anger, fear, anxiety, a sense of injustice or unfairness, lack of adequate understanding regarding their status, poor communication from their healthcare providers, and having no one to rely upon through the pregnancy period. Most disturbing was the general message HIV-positive women *heard* from healthcare providers, that because there was no cure for HIV/AIDS they and their children were going to fall ill and die. The following statement was made by a mother who had not attended ANC during the reference pregnancy, but who during her previous pregnancy had been an enrolee in the PMTCT program. Her child of that pregnancy had died aged 38 months after testing HIV-positive when he was 2 years old.

> *It is hard when you don't have anyone to talk to ... when you are HIV-positive the nurses treat you differently, they don't care. Yes, you have an incurable disease and can die anytime, but you didn't give yourself that disease, they should help you like everyone else ... when my child's results showed he had the virus they didn't tell me why, but I participated in PMTCT. He was sick all the time, I brought him to the hospital, but they just gave him same tablets all the time and his condition was not improving. It was even better sometimes when I took him to church* (Faye, 25 year-old HIV-positive mother of two).

All PMTCT enrolees interviewed, whether lost-to-follow-up or not, described a sense of frustration with their pregnancies in the context of HIV/AIDS when asked to talk about their PMTCT experience. Because of differences in coping strategies, women in the end took different actions with regard to PMTCT, some defaulting and others being lost-to-follow-up. For women who remained enrolled in the program, one major problem (for five out of the eight women in question) had been the issue of defaulting, which had become a source of frustration for both them and their healthcare providers. At a personal level these women frequently mentioned forgetfulness, difficulties travelling

and the fact that they had not disclosed their HIV-status to people they were living with as some of the factors contributing to their defaulting on their medication. Echoing some of these issues, Tshepo, a 22 year-old mother of two who had learned of her HIV-positive status just a few weeks before establishing she was also pregnant again lamented that "maybe because of all the constant worry, *mma* (madam) sometimes I just forget to take the medication, and I just get more worried". Another woman, Metsi, a 26 year-old HIV-positive mother of two revealed that "at times *ne go nketehalela* (it was heavy/difficult) to take my medication when I was at my boyfriend's place … I didn't know how to tell him, but I knew I had to eventually."

Two women also mentioned lack of clarity regarding pill intake, citing lack of guidance on how they were to take their medication. Asked to comment on her PMTCT experience, Segomotso (a 27 year-old HIV-positive mother of two) explained how her pills had ended before the date of her next visit:

> *When I started I had some problems, because I did not understand and they did not explain to me how many tablets I was meant to take after food. When I went to the clinic the nurse asked me why the tablets were finished so quickly and whether I was not told that I should take one tablet a day. I told her I heard them [at the dispensary] saying I must take a tablet with my meals during the day and in the evening.*

While PMTCT uptake as assessed for this thesis was very high, with data from the obstetric records review indicating that at least 95 percent of HIV-positive women had enrolled, there were a number of problems with regard to retention. From the obstetric records review the proportion of women definitely lost to follow up was 6.9 percent. There were three women who had been lost to follow up who were purposively recruited for in-depth interview. These women were asked to talk broadly about their participation in the PMTCT program, including why they had enrolled in it in the first

instance. It was in this context that women talked about the challenges they had faced and the decisions they had made as a result of these challenges. All three women talked about the major problem of coping with the pregnancy and being a PMTCT participant. "To know and accept that you are pregnant when you did not plan for it, I can see [understand] that, but to be HIV-positive at the same time is really heavy", said Joyce, a 36 year-old HIV-positive mother of three. Her statement sums up women's frustration with poor coping due to the increased stress from unplanned pregnancy in combination with an HIV diagnosis.

The women who were lost to follow up described a lack of coping strategies to help them deal with their pregnancies while accepting their HIV status. They had agreed to enrol in the PMTCT program at the time of registration because it was what the nurses told them to do. Thus Neo (a 23 year-old HIV-positive mother of one) said, "after giving me my result, the nurse told me to enrol in PMTCT so that the virus could be prevented from going to the baby". Women who initiate ANC often do so because they wish to improve their pregnancy outcomes, but this cannot cloud the fact that accepting that they are HIV-positive and enrolling in the PMTCT program is not easy for them. Just how adequate and effective the post-test counselling and referral to social workers is in helping women cope with both their pregnancies and their HIV status remains questionable. In the health facilities where informants for this study received ANC, women enrolled in PMTCT are generally counselled by lay counsellors who are specifically trained to conduct HIV pre- and post-test counselling. These lay counsellors are, however, young people themselves, who are not trained to a level enabling them to provide advanced counselling to women who may be facing confusion, denial and depression. The paucity of and need for female support groups that women can be

referred to through ANC units are issues that it is critical to address for PMTCT to be optimally effective.

Another issue that had contributed to the loss-to-follow-up of the women who were interviewed was unsympathetic treatment by healthcare providers. Tshepo (a 22 year-old HIV-positive mother of two) noted that after registering at PPH for ANC, she later went to live with her partner in Makaleng. She said because she did not know anyone in that area she found it difficult to attend ANC – she did not know where the clinic was and was afraid to ask people. Her partner gave her directions, but she was afraid to go by herself, so stopped attending ANC until she went back to Palapye to deliver. When asked about the risk of MTCT, Tshepo did not say much, except to sigh and also indicate that she was afraid the nurses were going to shout at her.

Poor patient-healthcare provider interactions were exacerbated by women being overwhelmed by the clinical interventions (screening tests) they had to undergo. Following a positive HIV test, a healthcare provider needs to provide follow-up care to the woman, including CD4 and clinical screening, which are necessary to decide on her treatment plan. The following statement from an interview with Neo, a 23 year-old HIV-positive mother of one, pointed to this issue:

> *Hey, really it was heavy* mma *(madam). Everything happened so fast you just don't know what to do, they draw blood from you* ba cheka masole a mmele *(for a CD4 count), you feel like it is not you. You are wondering what they [the nurses] are thinking about you ... when you don't come for a check-up they shout at you that you are being careless because you'll end up dying and infecting your child. They don't understand that it is really heavy, you are still trying to understand and accept your status, they just want you to take ARVs.*

For these women (as for all other patients) receiving news of a positive HIV result is viewed as a death sentence. Received in the context of pregnancy the news cannot be any less devastating. Women claimed that after being diagnosed HIV-positive, healthcare providers viewed them differently (as irresponsible patients) and projected an attitude that HIV-positive women should not become pregnant. One woman observed that "when you are HIV-positive they think it is your fault, they are rude when you miss an appointment" (Tshepo, 22 year-old HIV-positive mother of two).

Women who had been lost to follow up also pointed out their need to talk to someone who 'cared', and indicated that they did not consider that their healthcare providers did care. One of them put it this way:

> *You can just see that a person does not care about you when you enter and greet him/her, so you cannot trust that this person will listen to you and assist you with love, noting that you are a human being. It is like we are bothering them [the nurses]* (Neo, 23 year-old HIV-positive mother of one).

In the course of their pregnancies HIV-positive women attending ANC face critical decision-making points that have a bearing on their health and that of their babies. That is why it is important to locate women's health service use at the intersection of individual agency and the social environment, including family, community and the health system (the latter being the particular focus of this thesis). Most importantly, however, while it can be appreciated why maternal and child health care has become increasingly 'task-oriented', there is a need to recognise that women are simply thrown into a medical milieu. Expecting them to make life-altering decisions within a span of seven months or less, especially under constrained systems that do not provide adequate support to help them make informed decisions, can be counterproductive. The question healthcare providers, policymakers and health service researchers need to ask is, how

can women be better assisted to handle the fear, frustration and anxiety that comes with HIV diagnoses and the proposed treatment and care plans that follow? It is submitted in this thesis that building a trust-based health system would be a step in the right direction, if not a panacea for effective health service use and therefore efficient health provision and better health outcomes.

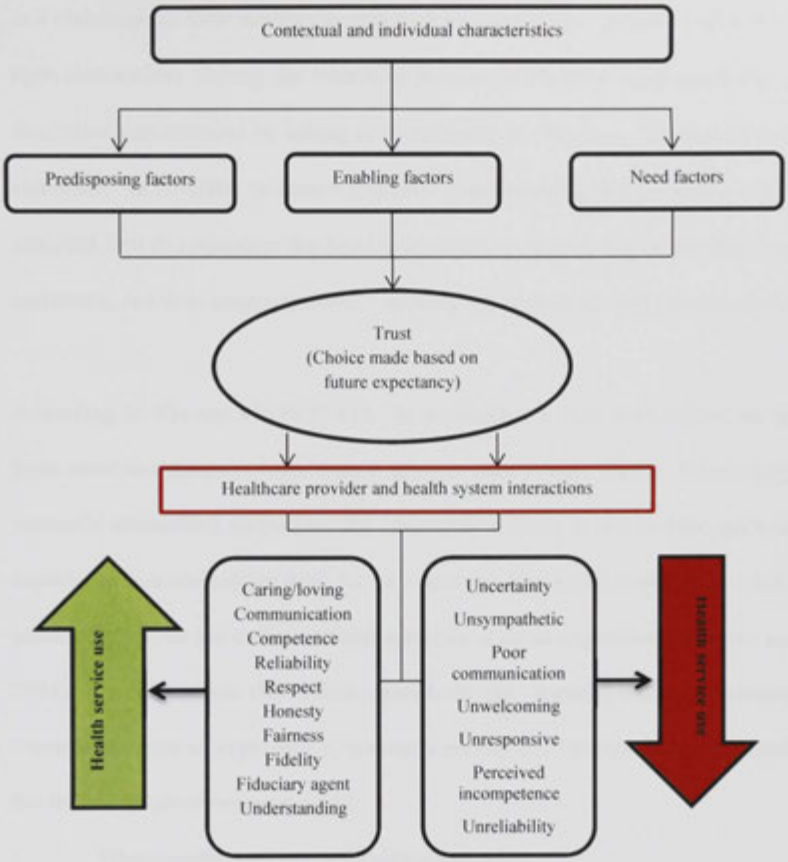
7.3 Locating trust in women's health service use

This section aims to provide insightful accounts (from selected narratives of informants) of women's health experiences in relation to the existing literature on trust in healthcare. The writing is guided toward current concerns in healthcare system strengthening, in particular toward women and children's access to healthcare and their health service use, which have been identified in this thesis as being miss-matched. For example, women attending ANC and not following through to attend PNC or delaying attending it; women enrolling in PMTCT and then defaulting or dropping out of the program. This shows that access to and utilization of health services entails more than mere existence of services. It also requires effective patient-provider relationships, made possible by trust. The aim is to explore, rather than measure, the extent to which trust was a factor that influenced women's health service use. Understanding this conceptualization of trust in women's health service use can then be used in health service research to develop relevant (context-specific) measurement tools that can be used to better monitor and evaluate patients' trust in order to build a trusted healthcare system with better health outcomes. The discussion focuses on women's narratives of their interactions with their healthcare providers and the healthcare system in general. By focusing on women's descriptions of these interactions it is hoped to be able to gain a deeper insight into how they are connected to a wider shared social representation, which is better

health outcomes. The data are filtered with a view to locating connotations of trust within women's narratives, selecting specific text and expanding on its essential meaning with regard to trust in healthcare as derived from the literature.

There are three basic understandings that this analysis is based upon. The first is the general understanding that people as social actors form meaning from social interactions (Olsen, 2008). Second, the analysis is premised upon the understanding that trust is a key component of social life, as it allows for the functioning of social relationships, interactions and actions. Third, it is a well-entrenched understanding that "healthcare systems are inherently relational and so many of the challenges for health systems are relationship problems" (Gilson, 2003:1453). As Ozawa and Sripad (2013:10) point out, "healthcare is delivered by people and for people", and interactions among the different players in healthcare "play a significant role in the healthcare system" and in healthcare system performance. Therefore, in order to better understand women's health service use it is only appropriate to anchor such an investigation in systematically collected data rich in descriptions of their healthcare experiences and interactions. The conceptual model of trust in healthcare providers and the health system first presented as Figure 2.2 in Chapter 2 is re-presented as Figure 7.1 elaborated by adding results of the foregoing analysis to the model. The model as outlined in Figure 7.1 indicates the various factors that interact to shape women's health service use. Focusing on healthcare interactions, it illustrates how various qualities of those interactions as experienced by women are likely to have influenced their health service utilization in both positive and negative ways.

Figure 7.1: Conceptual model of trust and health service use, with results



7.3.1 Defining trust - Palapye women

Trust as a complex social concept means that for different people and in different contexts it can take on various domains or content areas. In the literature such domains as fidelity, competence, honesty, communication, confidence, confidentiality, fairness and system trust have all been used to describe trust dispositions (Mechanic and Meyer, 2000, Goudge and Gilson, 2005, Jones and Barry, 2011a, Ozawa and Sripad, 2013).

Semi-structured interviews that were conducted in Palapye allowed women to describe and elaborate on their healthcare experiences, providing a detailed iterative account of their interactions. During the interview process, informants were constantly prompted for further explanations by asking such questions as 'What do you mean?' or 'Can you elaborate?' in an effort to ensure complete understanding of their narratives. Text was analysed first to appreciate the local interpretation of trust within women's transcribed narratives, and then interpretatively – seeking the connotations of trust expressed in it.

According to Ricoeur (1976:87-88), "to understand a text is to follow its movement from sense to reference: from what it says, to what it talks about". When analysing the women's transcribed narratives, the researcher's focus is not to take each and every experience as something to dine out on – an event that needs explanation – but rather to unpack the text to get to the essential meaning of those experiences (Anders and Astrid, 2004). The discussion that follows points to the essential traits or meaning of the construct of trust as expressed in women's narratives. To unpack these essential traits, the following questions were asked:

1. What constitutes trust and trustworthiness?
2. What characteristics do women look for in their healthcare providers and the health system as a basis for trusting them?

Women were specifically asked to describe what the word 'trust' meant to them. They gave a range of responses, with descriptive phrases such as 'to believe', 'to hope' and 'to depend or rely on' being commonplace in these. Asked to extend their definitions of trust in their healthcare providers with reference to lived experiences, i.e., locating the notion of trust in patient-provider interaction and everyday use of the word, the

responses covered some of the tenets of trust, including elements of vulnerability, risk and expectation. There was an indication of women's willingness to accept their vulnerability (given the asymmetry of information and power in medicine) and a willingness to accept risk based on their hope, belief and expectation – trust – that healthcare providers would perform their duties to help and care for them and not harm them – that they would be fiduciary agents.

The difficulty women had in articulating their understanding of the word 'trust' was evident in their struggles to find the right words to express themselves. This perhaps points to the argument that trust is an intrinsic psychological state that may not be easy to conceptualize or verbalize (Gilson, 2003). So the interviewer, taking all precautions not to guide or direct informants' responses, prompted with further questions to help women better articulate their own responses, asking questions like 'When you say you trust your healthcare provider what do you mean?' or 'How do you decide that you are going to trust your healthcare provider?' and 'What characteristics do you look for?' Some of the responses from women included the following:

> *It is to believe in someone that he/she is trustworthy* – [fidelity] (Faye, 25 year-old HIV-positive mother of two).

> *To be optimistic about someone, believing in them to be a good person* – [fidelity] (Bernice, 23 year-old HIV-negative mother of one)

> *[Trust] is when I believe that they care and they will do what they can to help me* - [caring, patient's best interest] (Olebogeng, 36 year-old HIV-positive mother of three)

> *Ah!* Tota kene kele senene hela *(Really I was just helpless), and because she told me she is doing it to help me* – [vulnerability, caring, competence and patient's best interest] (Bareetsi, 31 year-old HIV-negative mother of two)

Really it's just that the nurses (some of them) do not care, and even when they don't know or understand about some illnesses they won't say they don't know ... some of the illnesses they can handle because they have gone to the qualified government schools, but some 'Setswana illnesses', they don't know much about them – [competence, communication], (Faye, 25 year-old HIV-positive mother of two)

When you come in and you greet someone, you can tell [by the way they respond] if this is someone you can talk to [someone who is compassionate] and listens to you – [caring, communication, compassion] (Molly, 40 year-old HIV-positive mother of six)

[Lack of trust is] when someone does not even look at you when talking to you – [respect, caring, communication] (Wame, 34 year-old HIV-positive mother of four)

Drawing from women's responses, trust in healthcare providers as defined by women can be summed up as: *An optimistic belief or hope that healthcare providers care about their patients and that patients can rely on them to act in their best interest (to assist them to cope better).*

7.3.2 Trust and trustworthiness

Trust, trustworthiness and distrust in the context of healthcare are important to understand (conceptualize, operationalize and measure) given that healthcare is generally characterized by uncertainty and an element of risk (Calnan and Sanford, 2004). Patients place their trust in healthcare providers on the basis of optimistic expectation – they are uncertain about the motives, intentions and likely actions of the healthcare provider. In doing this, patients may consider various factors in evaluating a healthcare provider as trustworthy. Healthcare providers' trustworthiness derives from a patient's perception about their integrity and commitment, often based on certain characteristics or behaviours that they may portray, such as compassion, friendliness and honesty.

For the women who informed this study, various concepts that relate to the notion of trust were noted in their responses. These included fidelity, communication, competence, and demonstrating 'care' or interacting 'with love' (*go kgathala* or *ka lorato*). These concepts or words were common in women's responses when asked about their lived experiences and the characteristics they looked for in healthcare providers as indicating their trustworthiness. Women made statements such as "*ha a go thusa ka lorato a supa gore wa kgathala* – when she attends to you with love and care"; "*a tsa nako, a go reetsa a buisanya le wena go bona gore o ikutwa jang* – when she spends time listening to you and asking you questions to see how you are"; "*ha a kgona go go thalosetsa gore mathata ke eng* – when she shows you or tells you what is wrong", "*ha a itse se a se go bolelelang* – when they are sure of what they are telling you" and "*ha ba go thathoba, ba kgona go go bolelala gore gorileng, ba go thusa* – when they check you and tell you what is wrong and assist you" to describe how they determined a provider's trustworthiness.

7.3.4 Trust and women's health service use

Based on knowledge from the available literature, trust was expected to form an integral part of women's health service use narratives – women who trusted their healthcare providers and the health system were expected to indicate optimal service utilization. Distrusting women and women with low levels of trust in their healthcare providers and the health system, however, were expected to indicate sub-optimal service utilization.

Conceptualizing the influence of trust on women's health service use was based on three phases of trust theorized by Thorne and Robinson (1989). Thorne and Robinson found that patients' relationships with their healthcare providers evolved through three

predictable phases: naïve trust, disenchantment and guarded alliance (or re-constructed trust). What is presented here is not an attempt at critical analysis of these phases. Rather the phases are used to help clarify the iterative process through which trust is developed and maintained or undermined in healthcare interactions, to help provide clarity as to how women interviewed in Palapye experienced trust during their healthcare interactions.

7.3.4.1 Naïve trust

The naïve trust, or blind trust, identified by Thorne and Robinson (1989) in their study of chronically ill patients is the trust that is present at the beginning of a clinical healthcare provider-patient relationship or encounter. It is naïve or blind because the expectations placed on the health system and healthcare providers take for granted that the services sought are available and that the healthcare provider appointed to deliver those services is qualified and competent to do so. It is an untested optimism that is uncritically applied to most healthcare providers at the beginning of clinical encounters or interactions.

Women's descriptions of their motivations for accessing and utilizing maternal and child health services demonstrated this level of trust. Their trust was mainly rooted in institutional trust as well as trust in the profession of medicine (its assumed technical competence). As noted before, women often stated that they had attended ANC because of the practical services they sought. Their understanding that these services were provided for by their government through healthcare professionals who were trained to provide them gave women reason to be optimistic that their expectations would be fulfilled.

> *You know these days we are sick. When you attend a clinic during pregnancy they check if you have any illness that may affect your baby. There are also some vaccinations that you have to be given when you are pregnant which are good for the baby. I also attended because I wanted them to check that the pregnancy was progressing well and the baby was in the right position* (Neo, 23 year-old HIV-positive mother of one).

Women in the present study had taken the initiative to seek specific care such as pregnancy tests, vaccinations during pregnancy, HIV tests, delivery at a health facility and PMTCT treatment plans. The high level of ANC attendance shows a simple, minimal starting point of expecting to receive care when they presented at a public health facility. Women's responses such as "I went to the clinic to confirm pregnancy", "I wanted to test for HIV", "as an individual you may not know when something is wrong … at the clinic they check you and tell you if something is wrong" and "I went to the clinic so they could check if the pregnancy was progressing well" show a confidence that they would receive the services they sought. These can be seen as voluntary actions on the part of women, based upon expectations that healthcare providers will act in accordance with their delegated roles.

It is reasonable to assume that these optimistic expectations were grounded not only in institutional trust, but also in the authoritative knowledge of science embodied in healthcare providers – their technical competence. Women stated that healthcare providers "have been trained in good government institutions of health". They went to see them seeking authoritative knowledge (knowledge that counted) to confirm what they already knew from personal experience of pregnancy, i.e., body changes, missed menstrual periods, etc.

However, caution must be exercised in describing this initial trust on the part of women who informed this study as naïve or blind. Some women, for example, elected to attend ANC at certain facilities and not at others because of facilities' perceived reputations. Moreover, some evidently relied on the views of others in developing trust or mistrust when selecting a facility to use – what Lee-Treweek (2002) calls 'network trust'. This was supported by one woman who said: "I was attending [ANC] at PPH. Sometimes people have gone to the Khurumela clinic only to find that the nurse (midwife) [they wanted to see] is not there. Then you have to start going to the hospital anyway" (Nkamo, 26 year-old HIV-negative mother of one). Nkamo was indicating network trust in that, while Khurumela was in her residential ward, she preferred to go elsewhere because some of her friends/relatives who had attended Khurumela clinic were not able to access the care they sought there. Other examples of network trust present in women's descriptions of their health-seeking decisions included statements such as:

> *Ah, the nurses at Palapye clinic [PPH] are mean. A lot of my friends who attended there were scolded because they were young* (Onkabetse, 18 year-old HIV-negative mother of one).

> *Kediretswe clinic is always packed. I take that because it's along the road so it is easy to go there for most people using a kombi* [mini-van taxi that drops one along the main road and is cheaper than a special taxi]*, but it is also good to attend clinic there. The nurses, especially Mma Bontshetse, is really helpful to a lot of people* (Kungo, 26 year-old HIV-negative mother of two).

> *[But] also [friends have told me] the nurse at the ANC clinic likes to shout at women when they attend ANC late. I didn't want to wait too long only to later find I am pregnant and then have them shouting at me as to where I've been* (Bernice, 23 year-old HIV-negative mother of one).

It is clear that some the above statements were made by women who did not directly experience what they were describing, but rather what had been experienced and

reported to them by those in their networks. It is therefore questionable whether women can really have blind or naïve trust, particularly in communal and close-knit societies such as those of Africa. This is why it is important to contextualize trust, to ask what is being trusted and what the conditions are for generating that trust. Nevertheless, the concept of naïve or blind trust is applied to women's health-seeking behaviour in this thesis because of the observed undertone of an uncritical stance demonstrated by women through their high level of ANC attendance, which was dominated by seeking specific and practical care that they were able to specify.

Healthcare providers on the other hand often bask in blind trust, typically stating that "women know the benefits of ANC services". It is as though there is a general ignorance on their part of the amount of trust they require from their patients. Asked whether they think women do not trust them and that is why they do not use healthcare services very well, their responses included "Why would they not trust us?" (Mma Serumula, a registered nurse at PPH) and "We are here to help them, nothing else" (Mma Molefi, a hospital orderly at PPH). One extreme response encountered was that "They have no choice but to trust us" (Dr. Musa, a medical officer at PPH). For healthcare providers to fail to understand that they need to *earn* women's trust is nothing short of a tragedy for therapeutic relations.

Initial care-seeking presents unprecedented opportunity for healthcare providers and the health system to *get it right the first time*. It is a period of validation for women, the potential of the interaction being to either build or undermine trust for future interactions. As noted from women's responses, when they make initial ANC visits they have specific expectations, and expectations not met generate disappointment, which

then leads to the next phase of trust – disenchantment.

7.3.4.2 Disenchantment

Expectations can fail to be met, and when that happens it results in negative outcomes, including a loss of trust. Women make their initial ANC visits because they want to affirm what they already suspect, as well as to receive all other necessary assistance that is appropriate for the health needs they present; i.e., they have both expressed and unexpressed expectations. However, when these expectations are not met they experience anxiety, frustration and mistrust.

Women's lived experiences of unmet expectations communicated during in-depth interviews included being turned away when they came to seek care, healthcare provider absenteeism, negative attitudes of healthcare providers, poor perceptions of services provided, poor communication (including being blamed for their predicaments) and failure of healthcare providers to listen to them.

> *How I felt when she told me that, ah, really it is tiring to be turned away just like that when you've made arrangements to register then. You've to start again and plan for it, that thing is not good* (Bonolo, 23 year-old HIV-negative mother of one).

A sense of disenchantment that women felt and expressed, and that also influenced their health-seeking behaviour, indicated how easy it is to undermine naïve/blind trust. For example, Lebo, a 34 year-old HIV-positive mother of four who had attended ANC hoping to be able to talk to a healthcare provider, described how initial cues portrayed by the provider simply did not encourage her to open up to her, so that in the end she simply accepted the minimal care that was offered. As previously quoted in section 7.2.1.4 she commented:

> *When you come in and greet someone, you can know then if this is someone who cares and whether you can talk to them about anything else. But when someone does not even look up to ask you how you are, you just keep quiet and let her do what she must do and you go ... sometimes you come again and find a nurse who is different, then you are able to talk to her and she helps you a lot.*

Lebo went on: "I remember asking myself, what is the point of coming and being attended by someone like that?"

Other situations included women who had experienced difficulty during their pregnancies and had not received care that alleviated their ill-health. Some women who had had problems indicated, for instance, that "she told me there was nothing she could give me", or "she told me to go and buy tablets at the pharmacy because they were not available at the hospital". Other frustrating experiences for women included being given the same medication, even though they did not feel that their condition had been improving from taking it (and had told their healthcare providers this). These instances do not just point to women's frustration with their healthcare providers and the health system in general. Given that patient expectations can sometimes be beyond the capacity of the health system to respond as patients would wish, or a medication, while not bringing notable improvement, might at least be preventing serious deterioration, there needs to be more attention given to ways in which expectations are managed. Healthcare providers need to be sensitive to patient expectations and any failure on their part to meet them. They need to acknowledge and apologize for system failures that are beyond their control. And if a woman's condition is beyond being alleviated by available medical means, or there is a sound reason for continuing treatment she does not perceive to be effective, these things require sympathetic explanation rather than being passed off as beyond the patient's capacity to understand.

Disenchantment with healthcare providers and the health system was expressed in women's utilization of the system in various ways, including through non-attendance at ANC and PNC, delayed commencement of ANC, defaulting on PMTCT program expectations and loss to follow up within the PMTCT program. For example, some women elected to either not attend or delay attending ANC because they perceived the services provided to be not that beneficial, while others also opted to consult women in the community (traditional masseuses) for their health needs during pregnancy.

7.3.4.3 Re-constructed trust

Re-constructed trust, or 'guarded alliance', as identified by Thorne and Robinson (1989) is a phase where patients revise their expectations. In this phase the patient recognizes her/his role as well as that of their healthcare provider in managing their illness, and based on their need for healthcare the two of them make a deliberate effort to establish cooperation and reciprocity. The statement of Baaitse, a 30 year-old HIV-negative mother of three, in section 7.2.1.3 supports this, noting that even though the nurses 'don't care', one is still better placed if one attends ANC:

> *Going to the clinic is important because you can stay at home thinking that everything is OK and you really may not be aware that there are problems, or maybe you find that the baby is not correctly positioned. They check you to make sure everything is OK, even though sometimes* ba a re lathelela (*they don't care). I always had body aches all over and just couldn't understand what it was, and I worried a lot about this. Maybe if I didn't attend I would not have known that I was pregnant with twins. I just found that I was prone to have shortness of breath, and I went and told the nurse at the clinic. Really as a person, you just need to attend ANC.*

It can be submitted here that re-constructed trust does not always mean low trust. Rather it can entail high or affirmed trust; i.e., it can be re-constructed from trust that was initially untested or naïve to trust which has been tested and positively affirmed. Such

affirmed trust would be demonstrated by women who patronized services, attending ANC consultations as often as advised by their healthcare providers. On the other hand, re-constructed trust can pose a problem in that it can also mean low trust or mistrust, leading to patient reluctance to access or receive care (Goudge and Gilson, 2005). Low trust or mistrust are suggested to be the primary barriers to collaboration between two parties, including between patients and their healthcare providers (Benamati *et al.*, 2010)

When there is low trust, in order to deal with their frustrations patients find ways of expressing their unmet needs. For instance, women in this thesis mentioned nurses' workloads as a likely reason why they may not always portray positive, happy attitudes. Other considerations included women opting to accept certain types of care and not others. For example, some HIV-positive women opted not to attend ANC, only presenting for delivery; some who attended ANC opted not to enroll for PMTCT; and of those who opted to enroll for PMTCT some opted to drop out of the program.

> *I started feeling sick but they could not tell me what the problem was, and when I stopped taking the medication they gave me to prevent the virus from going to the baby, I felt better. So I decided to stop taking [the pills]. No one was telling me anything* (Phukie, 31 year-old HIV-positive mother of five).

> *[When] I went back the nurse told me she had to do the stitches again because they were not done right the first time. I just had to hope this time it would be OK, because she was doing it to help me* (Portia, 19 year-old HIV-negative mother of one).

Like the blind trust phase, re-constructed trust (if emanating from trust that had been broken) still provides some opportunities for healthcare providers to display a caring demeanour in their healthcare provision, to help women who may be dealing with various frustrations during their pregnancies. However, without appreciation of the

existence of some of the underlying complexities in women's health seeking behaviour, healthcare providers and policymakers would not be able to recognize some of the real barriers to access and utilization of services.

7.4 Discussion

This chapter has sought to provide a deeper understanding of women's health service utilization patterns. It has shown how women use their lived experiences while receiving care to make health decisions, some of which put them and their children at risk. The findings presented showed how women's health seeking behaviour, and in particular their health interactions and experiences, occupies the space between their individual agency and their broader social environment.

The results presented show that women attend ANC because they want to have healthy pregnancy outcomes; they attend to receive practical health services as they need them. Services sought include pregnancy tests, disease screening and management, pregnancy monitoring, health education, facility delivery and psychological support. However, various issues hamper women's access to and utilization of these services. Women sometimes delay accessing them, or do not access them at all, because they have a perception that the services offered are not important and therefore they can do without them. In particular, some consider that being pregnant does not mean they are sick. This shows that education on the benefits of ANC attendance still needs to be pursued, with targeted messages likely to be the most appropriate. For example, health education could focus on illnesses that may not be easy for women to detect, as they may generally feel well in spite of the presence of such illnesses – things like gestational diabetes, low or high blood pressure and deficiency in vital minerals and vitamins.

Delays in using and failure to use maternal and child health services are also a result of poor patient-provider relationships. Negative healthcare provider attitudes, including lack of compassion and a caring demeanour in care provision, poor communication, and lack of respect deter women from optimally using available health services. Other factors that act as barriers to women's access to and utilization of health services include the unresponsiveness and unreliability of the health system (e.g., staff absenteeism and shortages of drugs), and failure to meet reasonable expectations, which result in a general sense of distrust. Problems with trust in women's health experiences were demonstrated in frustrations that women expressed, including women who had defaulted on their treatment plans and those who had dropped out of the PMTCT program, as well as women who had failed to attend ANC altogether. These frustrations were a result of both unmet expectations of the health system and their own personal hopelessness given, in particular, the system's inability to cure HIV/AIDS. Health education messages for women should realise the increased emotional strain that pregnancy in combination with HIV/AIDS places on women. Positive living should be emphasized, and support groups for women should be established, promoted and encouraged to help women cope better. Approaches to providing maternal and child health services should aim to promote continuity of care by re-orienting provider efforts towards building trusting relationships with women. A specific program or policy focus could include a comprehensive effort to promote wellness at a broader level, including adequate referral to non-clinical support services at facility and community levels.

Overall, these results show that pregnant women demonstrate a great willingness to seek care and that each health encounter presents a key opportunity for healthcare providers to *get it right the first time*. Providers should understand that mutually beneficial

healthcare practices require them to recognize the importance of building trust in healthcare so as to improve service use. Unmet expectations in the healthcare women receive will result in inefficient use of available resources, as women end up making choices that put their health and that of their children at risk. This is why accountability and responsiveness towards meeting women's healthcare expectations has implications for strengthening maternal and child health services, as they point to efficiency. This is also why one concludes by recommending that to build upon present findings, women's level of trust in their healthcare providers and the health system should be measured. This can be done by expanding on the data from this thesis as well as existing literature on trust. For example, statements that women made describing their bases for trust could be used to develop likert-type trust scales that are also context-specific to yield appropriate measures of trust among women.

These measurement scales could then be used to provide policymakers with insights into the performance of the health system and what changes may be necessary to improve it, as well as facilitating the monitoring of change to assess whether improvement does in fact occur. The sorts of items (statements) that might yield trust scales ranging from 'agree strongly' through 'agree', 'neither agree nor disagree' and 'disagree' to 'disagree strongly' include "I trust my healthcare provider", "My healthcare provider knows what she/he is doing" and "My healthcare provider cares and will assist me in any way she/he can". The utility of understanding the association between level of trust and women's health service use is the insight it provides into ways in which a continuum of care, which is necessary for better health outcomes, can be negotiated and ensured.

CHAPTER 8

SUMMARY DISCUSSION AND CONCLUSIONS: IMPLICATIONS FOR THE HEALTH SYSTEM

8.1 Introduction

Access to and utilization of maternal and child health services in sub-Saharan Africa is widely documented (Mburu *et al.*, 1978, Letamo and Rakgoasi, 2003, Myer and Harrison, 2003, Mugisha *et al.*, 2004, Pretorius and Greeff, 2004, Cham *et al.*, 2005, Gage, 2007, Kebaabetswe, 2007, Magadi *et al.*, 2007, Simkhada *et al.*, 2007, Creek *et al.*, 2009, Mrisho *et al.*, 2009, McTavish *et al.*, 2010, Ochako *et al.*, 2011). It has been realized that women and children in particular suffer and die from diseases that are preventable and treatable, one of the major contributing factors being constraints in the healthcare system which lead to performance failures in service delivery. Healthcare system-wide constraints, including poor quality of care (e.g., untimely diagnosis and poor management of diseases), shortage of healthcare providers, poor teamwork (communication and supportive supervision) among healthcare providers, as well as poor drug supply systems, poor generation and use of healthcare information, and poor financing (and therefore limited scope of services) are at the core of performance failures in national healthcare systems. In the end, in sub-Saharan Africa maternal and child health services remain under-utilized or inadequately utilized, sometimes even when an adequate supply of services exists.

Through a mixed methods research approach, the aim of this thesis was to explore Palapye women's access to and use of health services using a focal construct of trust in healthcare providers and the healthcare system in general. The thesis was premised on the principal understanding that healthcare is a social institution through which

healthcare is provided by people for people, thus making healthcare inherently relational (Gilson, 2003). It is a well-entrenched understanding that relationships are mainly made possible by the presence of trust between parties to them. Thus, the salience of trust in healthcare cannot be overemphasized.

This final chapter provides a summary of key findings that addresses the thesis objectives. The implications of these findings for the healthcare system are also discussed. Recommendations are made that relate to some of the operational issues that impede women's access to and utilization of maternal and child health services that were exposed by women and observed during the research process. The overarching implications for healthcare system strengthening that derive from the thesis findings emphasize the need for and timeliness of building a trust-based healthcare system able to reduce health disparities, ensure a continuum of care and improve health outcomes. A discussion is also presented of the contribution of the thesis to an understanding of women's health service utilization and the broader examination of trust in healthcare.

8.2 Summary of key findings

8.2.1 Overview

The findings from this thesis reveal that women in Palapye have adequate access to maternal and child health services, as evidenced by over 95 percent ANC attendance and 95 percent enrolment in the PMTCT program among HIV-positive pregnant women. These findings are consistent with oft-cited figures emanating from WHO which estimate 95 percent ANC attendance (at least one visit) in Botswana for the period 2005-2012 (WHO, 2013b). The results also resonate with the findings of other researchers. A recent study conducted by Pell *et al.* (2013) found that in Malawi, for

instance, only 15 percent of women who attended ANC did so in their first trimester. Most importantly, the findings of this thesis revealed that the relative high utilization of maternal and child health services is marred by problematic patterns of use. These include late initiation of ANC, poor PNC attendance, and issues of poor adherence and loss to follow up within the PMTCT program. This paradox between virtually universal access to, yet sub-optimal utilization of, maternal and child health services is the concern of this thesis. The question asked is, "When women have relatively easy access to maternal and child health services, why does significant poor and ineffective utilization persist?"

8.2.2 Samples' socio-demographic characteristics

The thesis is based on two different samples. The first comprised 942 obstetric records for women who had delivered or presented immediately post-delivery at Palapye Primary Hospital (PPH) in the period April 1st 2005 to March 31st 2010. The second sample consisted of 36 recently delivered women who were purposively recruited from PPH maternity ward and interviewed in-depth, these interviews buttressed by further in-depth interviews with 14 key informants who included healthcare providers and Ministry of Health bureaucrats.

The socio-demographic profiles of the women who made up the quantitative and qualitative thesis samples highlighted some of the challenges facing women in Botswana. From the obstetric records sample, HIV prevalence among the pregnant women aged 15-44 years attending ANC was 38.9 percent. In both qualitative and quantitative samples most women were without formal jobs. There is also evidence of frequent premarital, non-marital and teenage childbearing (pregnancy among 15-19

year-olds and 18-19 year-olds in the quantitative and qualitative samples, respectively). This points to the presence of large proportions of female-headed households that other scholars have identified in Botswana (Pitso, 1997, Mookodi, 2000, Mokomane, 2004), which has substantial implications for the health system.

Female-headed households tend to be poorer than households with productive male and female partners and their extensive prevalence has exacerbated women's susceptibility to HIV infection. They become economically reliant on male partners and non-coresident boyfriends while losing power in reproductive decision-making over safe sex practices as well as in issues of treatment adherence. The socio-demographic characteristics of women are very important to take into consideration when formulating health policy and designing health services and systems of health service provision. Through targeted approaches, specific public health solutions that demonstrate an appreciation of key differences in the social determinants of health between women and men are most likely to be effective in addressing gender inequities in health.

8.2.3 Objective 1: Access to and utilization of antenatal and postnatal care

> *From obstetric medical records, to determine the proportions of pregnant women and mothers who opt not to attend or delay attending antenatal care (ANC) and who attend postnatal care (PNC), and to characterize the groups that (a) attend ANC on-time, delay attending and do not attend and (b) attend PNC.*

From a total obstetric records sample of 942 women, 902 (95.8 percent) had attended ANC at least once while only 4.2 percent had opted not to attend at all. PNC attendance was confirmed for only 23 percent (213) of the total obstetric records sample. For the remaining 77 percent of the sample PNC attendance could not be determined from the available data. Simple chi-square tests revealed no statistically significant differences in

the timing of ANC first consultations by women's socio-demographic characteristics. However, one-way between groups analysis of variance revealed that on-time attendance had involved mainly older women (in particular those aged 40 years or more), women with secondary or more education, women whose pregnancies were likely to have been planned and religiously inclined women (p-value <0.05).

Women aged 35-39 years were found to have delayed ANC initiation longer than women in other age groups, their mean gestational age at first ANC visit being 23.7 weeks compared to about 22 weeks (ages 15-34 years) and 20 weeks (ages 40 and above). Women with primary education had delayed ANC initiation longer than those with no education at all as well as those with secondary or more education, the mean gestational age for women with primary education being 23.2 weeks compared to 22.9 and 21.9 weeks respectively for the other two groups (F=3.1, p-value <0.05). Also, the mean gestational age at first ANC visit for women whose pregnancies were likely to have been unplanned was 22.3 weeks compared to 21.2 weeks for women whose pregnancies were likely to have been planned (p-value <0.05). The results further revealed that a negative HIV status and having only a primary education level were two characteristics of the women which were statistically significant determinants of ANC non-attendance (p-value <0.01 and p-value <0.001, respectively). The odds of attending PNC were significantly higher for urban-resident women than for rural-resident women (p-value <0.05).

8.2.4 Objective 2: Uptake of and retention in the PMTCT program

To determine the proportion of HIV-positive pregnant women who are enrolled in the Prevention of Mother-to-child Transmission (PMTCT) program, and of them the proportion lost-to-follow-up during ANC and

to characterize those who follow through with the program and those who do not.

There were 366 women from the obstetric records sample of 942 who were HIV-positive (38.8 percent). Of these, 347 (94.8 percent) had enrolled in the PMTCT program during the reference pregnancy. The proportion of women in the program who were definitely lost to follow up was 6.9 percent, while it could not be determined from the available data whether or not a further 13.5 percent had been lost to follow-up as data available were inconclusive. Also, 53.3 percent of the women who were enrolled in the PMTCT program and were eligible to initiate AZT at 28 weeks had defaulted by failing to do so, of whom 42.0 percent initiated AZT later than they should have and 11.3 percent never initiated it. With regard to AZT during labour/delivery, 36.2 percent of women who delivered at PPH and were eligible to ingest AZT during labour/delivery had defaulted by not doing so, while it could not be determined from available data whether a further 28.7 percent had done so or not. Among HIV-negative women 73.6 percent did not re-test for HIV as recommended at 36 weeks gestation. There was no statistically significant difference among women by socio-demographic characteristics with regard to PMTCT adherence/poor adherence and loss-to-follow-up, except with respect to maternal age and parity. Multivariate logistic regression analysis indicated that age was a significant predictor of initiating AZT at 28 weeks gestation, although without any clear gradation pattern. The odds of initiating AZT at 28 weeks gestation were significantly higher for women aged 35-39 years than for women aged 15-19 years (p-value <0.05), but there was no consistent positive gradient with increasing age across all age groups. The odds of having ingested AZT during labour and delivery were significantly higher for women of parity 0-1 than for women of parity 2-3 (p-value <0.05), while the odds of loss-to-follow-up in the PMTCT program were significantly

higher for women of parity 4 or more than for women of parity 0-1 (also at p-value <0.05).

Reflecting on the results summarized in this section and section 8.2.3, women (especially those of African descent) who did not use health services have to a considerable degree historically been believed to be ignorant and uneducated. However, this was proved not to be the case for women in the Palapye area, who have relatively easy access to maternal and child health services. Women with no education, for instance, were not seen to have used health services less than women with primary education. In fact, even though the odds of women's ANC attendance by education level were statistically significant, women with no education, low levels of education (primary) and higher levels of education (secondary or more) had all used services in high proportions. Overall, the results obtained in this study indicate a high propensity among women in general to seek and utilize available health services, but significant problems relating to timely service utilization and continuity of care, as evidenced in their ANC and PNC attendance and PMTCT uptake and retention.

Women's service utilization patterns can be influenced at various levels, including individual, household, community and healthcare system (institutional) levels. Using an overarching construct of trust in healthcare providers and the healthcare system, women's health service utilization patterns were examined in this thesis at the individual and institutional levels. The sections that follow provide a summary of women's explanations of their identified utilization patterns.

8.2.5 Objective 3: Beyond risk factors to lived experiences

> *To explore the reasons that women who avoid or delay ANC, and who are lost to follow-up within the PMTCT program, give for their decision-making, and the roles of trust in relation to those decisions.*

To address this research objective, recently delivered women from the Palapye area were recruited and interviewed to elucidate their health service utilization patterns. They were not asked if they trusted their healthcare providers and the healthcare system in the first instance. Rather they were asked to describe their healthcare experiences and interactions to the extent that these shaped or influenced their service utilization. Connotations of trust were identified in women's responses and specific questions relating to trust, including asking them to define trust and what it means to trust, were posed later in the in-depth interviews.

Women stated that they accessed and utilized maternal and child health services to confirm their pregnancies, screen for diseases and receive necessary treatment, monitor their pregnancies (for better health outcomes) and deliver at a health facility, as well as to receive guidance and counselling to cope with pregnancy and related challenges. Those attending ANC on-time indicated that they had done so because they wanted to confirm their pregnancies and to test for HIV and receive treatment if necessary early, and in a couple of cases because they were worried about being pregnant at an older age. Late ANC-attendees on the other hand stated that they had delayed ANC attendance mainly because they understood that registration for ANC should begin at or around three months gestation (not earlier), and because they had low perceptions of the benefits of ANC, which when compared to other needs in their lives they did not prioritize.

Other reasons for late attendance included desires to avoid making multiple repeat ANC visits before delivery and avoid negative attitudes from healthcare providers, as well as having been in denial of pregnancy until physically it was no longer plausible. Women who did not attend ANC indicated that they had decided not to attend because they lacked support (including psychosocial support and support to curtail the indirect costs of attending ANC), wanted to avoid perceived harsh treatment by healthcare providers and did not perceive the services to be important (because they were not sick).

Women who followed through in their PMTCT treatment and care plans indicated that they had done so because it gave them hope of delivering an HIV-free child. Those lost to follow-up in the PMTCT program gave such reasons as lack of coping skills (due to fear, guilt, anger and stress), increased anxiety and frustration. Embedded in women's descriptions of their health services use was an optimism, or expectancy, that, over and above nominated specific factors influencing their service utilization, gave them the motivation to make an effort to seek care. In other words this expectancy was the propelling force – the lubricant that allowed motion towards healthcare-seeking action and a foundation upon which specified factors built to shape care seeking.

This expectancy, or optimism, was identified by filtering through women's narratives, wherein connotations of trust in their healthcare providers and the healthcare system in general were in evidence. In undertaking this filtering one was interested in identifying the implicit use of 'trust' (as either a noun or a verb) – its connotations or direct use – within the broader ordinary language of women's descriptions of their healthcare experiences. To do this, concepts and descriptions of trust identified by other scholars in the analysis of trust in healthcare were used. For instance, Pilgrim, *et al.*, (2011:4) note

that everyday use of the word 'trust' is wide ranging, from being used to refer to "care and confidence in being treated well" to including such words as "hope, confidence, honesty, reliance and reliability". They further posit that "trust implies predictions about both the impersonal and personal worlds we inhabit" (Pilgrim, et al., 2011:4).

Women's descriptions of their access to and utilization of health services demonstrated how institutional trust formed the basis for the minimum healthcare services they sought for themselves and their children. Starting with an optimistic, often uncritical expectation of such services as pregnancy and related tests, immunizations and disease prevention and management during pregnancy, they demonstrated a level of naïve or blind trust. This level of trust enabled women to repeatedly voluntarily seek care (e.g., turning up for as many repeat ANC visits as advised) in a timely manner (e.g., with pregnancy tests being readily accessible, some women would attend as soon as they missed a period or within three months in a bid to confirm suspected pregnancies). However, it could not be concluded that women were simply always operating on naïve or blind trust, given that their networks clearly affected their trust disposition. Women's health-seeking motivation at this level of trust could almost be seen as exploratory, with the reputations of certain facilities (based on friends' or family members' reports) forming the basis for decisions to attend them, sometimes even when they were not within a person's residential zone or ward. In this way, not only did a woman attend expecting to receive the services she wanted, but also she was optimistic about the nature of the care she would receive, that it would be good – provided in decent manner.

It was evident, however, in women's descriptions of their healthcare experiences that often their expectations had not been met. For instance, women were not always

confident or trustful upon presenting for care that they could talk to their healthcare providers about other issues in their lives that were affecting their health. They also sometimes did not receive the services they sought when they reached health facilities, including being turned away because they came 'late' or because healthcare providers were not available to render the services. Such experiences caused feelings of anxiety and frustration which resulted in poor disclosure, suboptimal use of services (including late initial ANC attendance) and in some cases a reluctance to make repeat visits. This sense of disenchantment was detrimental, especially to HIV-positive women, some of whom ended up being lost-to-follow-up from the PMTCT program because they failed to get advice to help them understand and cope with the medical complexities of their treatment plans.

In spite of various healthcare experiences that did not support the building of trust in women's health interactions with their providers, women demonstrated a sense of resilience. Operating on re-constructed trust women made adjustments in their expectations of their healthcare providers, including expressing the view that not all healthcare providers were bad and accepting that sometimes providers might act unsympathetically due to their workloads. Recognizing this variation in provider quality, women would sometimes switch facilities to follow a provider who was deemed good. Other adjustments women made included electing to accept only certain services and not others; e.g., opting not to attend ANC, or enrol in PMTCT, but delivering at a health facility. These reactions from women point to the inter-connectedness of healthcare interactions/experiences and the development of positive healthcare relationships – trust.

8.3 Implications for the health system

The health utilization patterns explained by women in this thesis provide empirical information that reinforces the centrality of trust in healthcare provision as a means for improving healthcare performance. Although the thesis is an early exploration of trust in relation to utilization of maternal and child health services in Botswana, women's narratives of their healthcare experiences strongly suggest that trust plays a key role in the use (and non-use) of health services. The findings presented point especially to trust and healthcare provision in the context of repeated healthcare interactions. Prevailing HIV/AIDS among women of childbearing age (and the population at large) simply dictates the existence of long-term relationships between patients and their healthcare providers and the healthcare system in general, and therefore the need for trust. While single healthcare interactions may not carry an imperative for trust, long-term relationships and the present policy aspirations for continuity of care in primary healthcare present a different challenge.

The presence of a long-term relationship does not in itself guarantee the presence of or building of trust; in fact long-term relationships can seriously undermine trust if deliberate efforts are not made by all parties involved to build trust. When women show resilience in the face of disappointment stemming from unmet expectations and seek care from the same facilities and healthcare providers, such repeat encounters provide opportunities for either rebuilding or further reducing trust. Therefore, appreciating and understanding the role of trust in healthcare has important implications for the organization and provision of primary healthcare services.

It is reasonable to suppose that women who have difficulty trusting their healthcare providers and the healthcare system often would not seek other types of healthcare that they need, such as psychological support to help them cope. Women revealed that sometimes they present at health facilities hoping to be able to talk to healthcare providers about other problems in their lives, but are not able to do so because they do not feel confident and encouraged to talk. This simply means that the healthcare that is provided is inadequate, because it fails to provide holistic well-being; it fails to respect the full definition of health. In the end, women settle for the minimum care that healthcare providers readily provide. When deciding between seeking such basic care as is provided and not making the effort to do so because it will have less impact on their daily routines and social lives, women easily opt not to seek care. This tendency has the potential to render the various potent healthcare interventions available to women and children sub-optimally effective, and in the extreme completely ineffective. Efforts must therefore be made by policymakers and healthcare providers to design and deliver health services in ways that support the development of trusting relationships in healthcare. For example, prevailing policy narratives of providing patient-centred healthcare must be translated into such acts as enabling women to access maternal and child health services when they want to and when they are able to, rather than when it is convenient for the healthcare providers or the healthcare system (see section 8.5).

The findings of this thesis compel and should help healthcare providers and policymakers to reconsider assumptions underlying maternal and child health policies, programs and interventions. Health policy and related service delivery needs to incorporate a broad perspective of healthcare that is systematically informed by women's life experiences, perceptions, circumstances and needs. Most specifically,

there is a great need to address underlying deficiencies in the healthcare system by addressing performance failures at the interpersonal level, so as to build a trust-based healthcare system. To attain this goal, more research is needed to understand how trust functions in the context of Botswana's healthcare system, and how it can be promoted and sustained. Crucially, this research needs to focus on health workers as well as on patients as the present study does, so that provider behaviour can be examined directly, and trust can be understood, and strategies for fostering it developed, from both sides of healthcare's interpersonal relational fence. Some foundations for building a trust-based healthcare system in the country do exist in current efforts, including in policy ideals for patient-centred healthcare enshrined in the Essential Health Services Package (EHSP) (see Chapter 1, section 1.2.7). But only when patient-centred efforts draw from an understanding of trust as a fundamental element in healthcare relationships will they be able to yield the needed therapeutic provider-patient cooperation in healthcare provision. Until healthcare providers and policymakers recognize and find ways to streamline their understanding of transactional interdependence in healthcare interactions, efforts in health sector development will remain lacking.

8.4 What the thesis has contributed

Maternal and child health services coverage indicators have often been used in studies to demonstrate women and children's access to and utilization of health services. What coverage indicators show in the end is a proximate measure of the quantity of health services available. They do not, however, say anything about how these services are offered and how they are received, and therefore provide no information on the effectiveness and efficiency of the healthcare system. This thesis did not stop at providing coverage indicators for maternal and child health service use, but has also

provided pertinent information regarding how women perceive and experience the delivery of health services they seek. Deriving from women's narratives of their healthcare experiences and utilization, information provided in this thesis is vital to helping healthcare providers and policymakers provide effective and efficient primary health care on a continuing basis that respects women's subjective points of view and the contexts within which they make health-seeking decisions.

Historically, our knowledge and understanding of women's maternal and child health service use has been informed by studies based on the Anderson health service utilization framework (see Chapter 2, section 2.4). This thesis provides a valuable extension to this framework, and therefore a persuasive explanation of how and under what circumstances decisions about access to and utilization of health services by women are made as well as how they can be reinforced or undermined – at the point of care. The thesis therefore provides a springboard for a paradigm shift in the way women's access to and utilization of healthcare services are conceived at individual and institutional levels.

By focusing on women's views and experiences as well as on the nature of service provision, this thesis has shown that health service utilization, particularly retention or continued utilization, requires different policy actions than are needed to promote initiation of health service use. For instance, it has been shown that significant determinants of women's healthcare initiation (initial ANC attendance and PMTCT enrolment) do not automatically also determine women's optimal or effective use of services and retention in programs. A woman with secondary or more education, for example, who constantly experiences treatment from healthcare providers that is

unsympathetic, harsh or even cruel, or who fails to receive the healthcare she seeks when she presents at a health facility, may well opt to stay home when she needs to make a subsequent visit. A pregnant woman who learns that she is HIV-positive and accepts a recommendation to participate in PMTCT may be lost-to-follow-up if she fails to receive information and sympathetic counselling that can help her sort through her frustration at being diagnosed and the destabilization brought into her life by being a PMTCT participant. Failing to trust the healthcare she receives does not help her, and therefore is not in her best interest.

The methodological approach employed in this thesis and its entire conceptualization also adds empirical evidence to the synergy between social sciences and evidence-based biomedicine inevitably needed in health service and healthcare system research. For example, while biomedical research is able to provide women's healthcare with potent evidence-based clinical interventions, ensuring that they are accessed and become effective requires an understanding of women's health behaviour that can only be provided through social science research.

Appreciating that evidence presented in this thesis is strongly suggestive that trust matters in healthcare, the need for a research agenda on trust requires more attention than it has received to date, not just in Botswana but in sub-Saharan Africa as a whole. Future research foci that could usefully be developed include 1) further research similar to this study aimed at affirming definitively, through weight of evidence from different settings, that trust indeed matters, 2) research to determine systematically how, and under what circumstances, trust within the healthcare system is reinforced or undermined, 3) investigations of trust in healthcare interpersonal relations from the

perspective of healthcare providers, and 4) on the basis of the foregoing, research that (i) attempts to distil how best to build trust in healthcare systems and (ii) attempts to measure the levels of trust women (or patients) have in their healthcare providers and the healthcare system in general. This thesis is a pioneering study that has provided a base upon which such future research can build, allowing a researcher to expand or adapt some of the factors women described as influencing their health-seeking behaviour to develop survey tools (e.g., item-based scales) to measure trust in specific contexts. Goudge and Gilson (2005) suggest that qualitative research, such as undertaken in this thesis, is an appropriate starting point to examine trust in healthcare. They recommend that inquiry should begin by understanding how trust functions in a given setting, which then ensures that any measure or examination of trust measures the appropriate form of trust, whether it be interpersonal, social or institutional trust. Scales to measure women's trust in their healthcare providers or in the healthcare system can then be constructed in order to seek further evidence on the centrality of trust in their service utilization.

This thesis is not just a reiteration of the importance of trust in healthcare that has been long established and accepted in academic analysis. The researcher is unaware of any empirical investigation of the role of trust that has been conducted in Botswana. In searching various electronic databases (including PubMed, Google Scholar, ResearchGate, African Journals Online and using the Google search engine) a wide range of keywords and phrases was used. Search results yielded very few studies from countries of sub-Saharan Africa which specifically conducted investigations into trust in healthcare. This thesis therefore not only fills that lacuna for both Botswana and sub-Saharan Africa. It provides an increased understanding of women's access to and

utilization of health services, by specifically focusing upon a concept vital to, yet taken for granted by, the region's healthcare systems. The utilitarian approach taken to public health often carries "an implicit assumption that … women will trust care-givers and care systems and believe that professionals are competent and caring" (Downe *et al.*, 2009:519).

8.5 Recommendations

Various issues were observed in addition to those voiced by women that negatively affected women's access to and utilization of maternal and child health services. These issues highlight the need for considerable health reform or re-alignment at organizational level, the main aim of which must be to provide maternal and child health services that are efficient, equitable and convenient from women's point of view. In order to improve service delivery and promote access, healthcare provision must first and foremost recognize that people want services that are decently provided. There is a need to focus on continuous improvement in healthcare using clinical audits, not only to identify problems, but also to promote accountability and improve processes in ways that are responsive to patients' needs, expectations and circumstances. Improved communication is needed between women and their healthcare providers, as well as among healthcare providers themselves, aimed at streamlining services to build seamless referral systems, especially to integrate psychosocial support via social workers and community support groups. The following recommendations focus on ways to address specific challenges that women faced when accessing maternal and child health services in Palapye.

8.5.1 Promote early ANC attendance

It has been shown in this thesis that women who attend ANC late, that is after the first trimester, do so because 1) they understand registration should begin at or after the third month, 2) they do not think early attendance is more beneficial, 3) they want to avoid making numerous visits before delivery, 4) they wish to avoid anticipated harsh or even cruel treatment from healthcare providers, and 5) they are sometimes turned away when first attempting to initiate ANC. What was also shown was that women have a number of concerns during pregnancy, including initial uncertainty over whether they are pregnant followed by fear and anxiety stemming from pregnancy, especially in the context of a high HIV/AIDS prevalence. Recognizing these concerns, ANC in Botswana's healthcare system could be reorganised so that early interventions are provided to women to address these concerns. The availability and use of early pregnancy test capabilities (as early as two weeks) must be promoted and women must be made aware of their availability through their communities and the media to promote early ANC attendance.

It is also important that health education campaigns aimed at promoting ANC attendance be revisited and extensively promoted. It is suspected that longstanding high ANC attendance estimates for Botswana (where ANC attendance for at least one visit has been estimated at 90 percent since the 1990s) may have led to complacency in teaching and encouraging women about ANC attendance. Revisiting ANC attendance will not only reflect appreciation of the current epidemiological challenges facing women and children and the consequent need for early interventions, but will also ensure that longstanding misconceptions are clarified; e.g., that registration for ANC should not occur until or after three months. The WHO recommendation that first ANC

consultations take place *within* the first three months of pregnancy needs to be widely publicised.

8.5.2 Re-align maternal and child health services

It has been shown in this thesis that women often have other health problems that do not directly emanate from their pregnancies, but rather from their broader social environments, including poor socio-economic status and low levels of general mental well-being. ANC services should be broadened to address as many of these concerns as possible. Perhaps some of the specific efforts and changes could include provision of psychosocial support services; e.g., access to social workers at the same MCH units where women present for ANC. This might help women to communicate their problems while also encouraging them to attend ANC.

Also, given the social environment in which women negotiate their health and well-being, ANC services should be re-aligned to include women's households and members of the community at large. Identifying and involving available household members and community leaders (including religious leaders, Chiefs and headmen, Village Development Committee leaders, employers and volunteers) where possible can help to ensure that women are provided with the support they need at these levels. Promoting the benefits of maternal and child health services such as ANC, PNC and PMTCT among these community leaders can help in disseminating these messages and in encouraging those living with women who need services to urge and support them to receive those services.

Members of the community, including traditional masseuses who some women visit for *tshidilo* (massage), volunteers (community health workers, including peer counsellors) and religious leaders, should be seen as links between women and health facilities in providing the former with care during pregnancy. Rather than demeaning women who visit traditional masseuses, healthcare workers should engage with these masseuses to build networks that can support women's referral to health facilities. Meetings at community level (building on the existing structures of Village and Rural Development Committees that are often used for community participation, mobilization and empowerment) can be used to build healthcare system and community networks able to promote and sustain women's access to and utilization of health services, and as forums where the roles that each can play are clearly laid out.

8.5.3 Allow flexibility in service delivery

Women's personal challenges or life circumstances have been shown in this study to often find a voice in their behaviour regarding the utilization of health services. Women's health and well-being are inextricably linked to their emotional and social health as well as to their social environment. These factors are often in a constant state of change across the life span. A woman who may have found it easy to seek healthcare assistance from the public healthcare system today may find it hard to do so the next day. This is when she has to filter through a number of other life issues and challenges that to her are in competition with her seeking healthcare. The interconnectedness of women's health problems and their personal life circumstances (including family relations, community relations and healthcare system relations) is at the core of understanding their health behaviour and utilization habits, and how they can be assisted through these phases. This interconnectedness must be appreciated in the design of

broader health plans, policies and service delivery systems. One approach to addressing it is for the healthcare system to be as flexible as possible.

Being flexible means healthcare providers and policymakers assuming a broad perspective in terms of how they view and understand women's health problems and being able to find ways to reflect that understanding. It can be appreciated that this does present a challenge for the healthcare system. The challenge may be compounded by there being enormous diversity among women, including, for instance, cultural and religious differences, different life experiences and different capacities of individual women to adapt to their challenges. Being sensitive to these differences, however, is pivotal in efforts to assist women to attain optimal health and well-being for themselves and their children.

For example, in Botswana's public health sector MCH units are open five days a week from 7:30 am until 4:30 pm. To register for ANC and attend any subsequent consultations during pregnancy or following delivery, women cannot make an appointment, they simply show up. The longstanding and common practice is that women must come very early, for several reasons: maternal and child health education classes are conducted prior to women being seen individually; there is a need to respect laboratory testing hours (unofficially set at from 7:30 am until about 12.00 midday); healthcare providers need time for outreach and home visits, which usually take place in the afternoons; healthcare providers are most alert in the morning; and there is a need to allow for reaction times to possible adverse effects of immunizations on children. On average it was observed that at PPH just a little after midday the MCH unit would be empty, and women who presented any time after 1.00 pm were generally turned away

and advised to return the following day. This was not, however, observed at other clinics, where the attending midwife consulted general patients as well as ANC and PNC clients and the clinic remained open.

Despite the rationale advanced for early clinic attendance (in order to secure a place in a queue), turning a woman away simply because she did not arrive as early as 7:00 am is not justifiable. This is especially so when nurses are present and have not gone on outreach or home visits, but also bearing in mind that a woman (pregnant or carrying a baby) may have walked or had to pay a taxi fare to come to the facility, and may have neither the resources nor the capacity to repeat the exercise the following day. Flexibility in the way things are done would allow a number of factors to be considered and efforts to possibly be made:

1. Consider a woman's circumstances: Before a woman is advised to return home healthcare providers should first ascertain why she elected to present at such a time. This would potentially give providers an understanding of the likelihood that the woman would be able to return the next day, or whether an effort should be made to assist her now.

2. Consider waiting time: Obviously women who all come at 7.00 am cannot all be attended to at the same time. Many will be attended to hours later, despite having arrived at much the same time. What this means is simply that whether seeking ANC or PNC, women may be expected to wait around for unreasonably long periods of time before being seen by nursing staff.

8.5.4 Introduce appointment scheduling for ANC and PNC consultations

It is common practice when women register for ANC or make subsequent ANC visits and at discharge from the hospital after delivery that notations are made in their obstetric booklets or on their hospital cards indicating subsequent dates when they should attend for ANC or PNC check-ups. Often this notation only indicates the date when the woman needs to attend. Given the time that many women end up having to wait around at a facility because everyone turns up before or just after 7:00 am hoping to be towards the front of the queue, early attendance being strongly recommended throughout the country, the time for introducing appointment scheduling seems long overdue. Gupta and Denton (2008:800) suggest that "appointment scheduling systems lie at the intersection of efficiency and timely access to health services". Appointment scheduling can benefit not just women once the system works effectively, but also healthcare providers, who may then be able to plan their workflows more efficiently. In addition, on those days when facility vehicles are not available to permit outreach visits, healthcare providers can plan to use this time for more scheduled consultations instead of having all women and children attend in the morning, only for the providers to have little or nothing to do in the afternoon (as was often observed during fieldwork).

The complexity of, and challenges inherent in, scheduling appointments for healthcare are not underestimated in this study. Factors such as arrival and service time variability, patient and provider preferences, available information technology and the experience level of scheduling staff as well as the need for additional resources would need to be addressed in order to implement this recommendation (Gupta and Denton, 2008). Benchmarking with countries that use appointment scheduling for outpatient services could provide some guidance on implementation. Possible approaches that could be

piloted include an open system where women could either call or send a text message to book an appointment. Another approach might allow for both walk-in and pre-booked services to cater for instances where a patient does not turn up for a booked appointment, as well as other circumstances unforeseen by women. A walk-in system provides considerable freedom to women with regard to the date and time at which they are ready to access care, but can also lead to lengthy waiting times which may in turn affect utilization. It may be especially appropriate for first-time ANC attendees, who might be encouraged to come early to allow for all initial pregnancy-related tests that are required, and ideally need to be done before midday. Then, once in the system for a pregnancy, pre-booked subsequent ANC appointments may be more convenient.

It is appreciated that appointment scheduling may result in a woman having to wait when available time slots do not suit her. This is where understanding of each woman's circumstances is important to bear in mind. Developing a guide or checklist that allows the scheduler to determine how to prioritize women's appointment allocations can be used to help improve the effectiveness of the system. While appreciating the complexity of such an initiative (which will be new to the country's healthcare system) it is also reasonable to suppose that the benefits will outweigh the challenges in the long run, as evidenced in other developed health systems that use appointment scheduling for most primary health services other than emergencies.

8.5.5 Manage patients' expectations and healthcare providers proactively

Managing women's expectations requires building trust, or rapport, quickly, which can be achieved through effective communication and keeping service provision consistent across different levels of care. Healthcare providers need to provide care in a way that

recognizes that women's demand for healthcare services carries a level of expectation about those services, and so any care that is provided must begin by establishing what those expectations are. Only when patients' expectations are fully understood can healthcare providers be well placed to provide relevant information and care, clearly spelling out who will do what, and thereby managing women's expectations effectively. When there is a discrepancy between patients' expectations and their healthcare experiences, a sense of distrust can develop. Healthcare providers need to learn and exercise good communication skills, including developing abilities to listen to patients, engage with them and convince them that they are interested in understanding the complexities of their life circumstances as these bear on their health and health-seeking behaviour. Listening and understanding the trajectories in women's lives, especially around pregnancy and childbearing, can help ensure that their perhaps unconventional (and seemingly poor) health choices and care options are not oversimplified.

The constraints in healthcare systems require proactive people management of both patients and healthcare providers. Shortages of healthcare providers and shortages of such health commodities as drugs and laboratory capacity will impact on the care that women eventually receive. These systemic constraints need to be clearly communicated to women and alternatives need to be explored and presented to them, providing reasonable evidence that their needs are being recognized. Women's responsibilities, from the viewpoint of the healthcare system, should also be clearly communicated to them in an effort to strike a balance between their expectations and the capacity of the healthcare system to meet them. This can be done through community mobilization forums and forming networks with the community, including through religious groups. Messages provided through media and community outreach programs, geared towards

informing people about their health and the healthcare system, could also be used.

Goodwill must be demonstrated by employers of healthcare providers to demonstrate that their efforts are valued and that all reasonable measures are being taken to manage their workloads. It is important for healthcare leaders to listen to healthcare providers' concerns about workplace constraints and for action to be taken to address them. While monetary incentives may not always be possible as a means of motivating healthcare providers, ensuring that facilities that help to make their provision of care easier are available can also contribute to improving motivation and how care is provided to patients. Systematic provision of work-based professional development training that focuses not only on equipping healthcare providers with necessary clinical skills, but also on their well-being as care providers is needed. The existence of monitoring and discipline systems in the healthcare system should not be promoted as devices to uncover wrongdoing, but rather as necessary means toward promoting good professional behaviour.

8.5.6 Constantly and consistently communicate healthcare goals

There can be no question that with the prevailing HIV prevalence together with its co-morbidities affecting women and children (and the population at large) in Botswana, clinical procedures and treatment guidelines are in a constant state of change. In any organization, managing change can be perplexing, especially when the organization does not have well developed change management structures. It is important in healthcare today that health goals and objectives are constantly communicated to both healthcare providers and patients. The Ministry of Health through District Health Management Teams and other local authorities needs to find ways of ensuring that goals

are communicated consistently and frequently to promote consistency in service provision as well as to clearly delineate the roles of all stakeholders. For example, there should not be any question as to whether healthcare providers are responsible for following up on women, especially those participating in the PMTCT program. Clear goals and clear roles will also promote provision of necessary support systems and tools for effective performance. One of the benefits that can accrue from a trust-based healthcare system is the reduced need for patient follow-up that derives from trusting patient-provider relationships. However, this will not necessarily eliminate the need for patient follow-up altogether.

8.5.7 Support groups for women

It has been argued in this thesis that women need psychosocial support. Psychosocial support services need to become part of maternal and child health services, and volunteer women prepared to work as peer counsellors could be called upon to assist. Peer counsellors can provide education and coping strategies to women, as well as linking them with relevant service providers that they may need to call upon from time to time. Most particularly, volunteers from among women living with HIV/AIDS need to be called upon to form support groups for women that are an integral component of maternal and child health services. These volunteers are likely to be especially effective, as they will be able to share with pregnant women a sense of their common struggles and experiences. Healthcare providers can assist and promote these support groups by forming networks with them and referring women who attend ANC and PNC to them. They can also assist women by seeking acceptable ways of putting them in touch with other women who have faced similar challenges and encouraging them to learn from their coping strategies. This, however, should be done with caution to ensure patient

confidentially is not breached, and only after talking at length with women to assess their genuine desire to be part of a support group. Support groups might also be encouraged if space for them to operate could be provided within MCH facilities, so that women could consult them at the same time as seeking other ANC or PNC services.

8.5.8 Improve medical documentation

Patient health records at health facilities are important for a number of reasons, such as care management for patients, monitoring the quality of care provided, finding gaps and standardizing clinical care. They can also be turned into data and information upon which important health decisions can be based. Health record systems are a mechanism for providing feedback in healthcare. It is therefore important that every care service provided is accurately documented to reflect precisely what was provided to the patient. It is perhaps because of poor medical documentation in public health facilities that very little emphasis is ever placed on feedback to improve the system. It is high time healthcare providers were made aware of (or had reinforced) the significance of comprehensive, accurate patient medical records, not just as information necessary for the care of patients or as means of communication among themselves, but also as legal documentation that can be used to scrutinize the care they provide the public.

Healthcare providers need to be familiar with the information they are required to document and how to record the care they provide. To do this consistently and effectively, they need to be familiar with the tools (e.g., obstetric booklets and registers) used for capturing clinical information. They also need to understand what sorts of information are required for different sections of any tool they may be using, to ensure they document care correctly. In addition, to help improve healthcare providers' clinical

care documentation it is important that they are made to understand clearly what the information they are recording is intended to communicate, and to whom. This can help ensure that clear and complete information is recorded more often than it is now, and ideally all the time.

Periodic training sessions within facility divisions can be organized to help promote understanding, accuracy, comprehensiveness and consistency in clinical care documentation. Another way to promote and improve medical documentation in primary care is to engage frontline healthcare providers in continuous quality improvement activities such as clinical audits. By participating in these, healthcare providers may be able to experience firsthand how useful or not useful the information they record on patients is, and whether it represents accurately the services they provide and how they provide them.

8.6 Concluding remarks

The findings in this thesis were consistent with what has already been demonstrated in the literature regarding MCH service utilization in Botswana, such as high ANC attendance and high PMTCT uptake. Most importantly, the thesis has examined patterns of health service use among women and provided a theoretical understanding of women's health utilization that remains limited in healthcare systems research in Botswana. It has reinforced the understanding that trust matters in healthcare, and may well be the pivotal element in prevailing shortcomings in service delivery.

Trust as a building block for co-operative relationships derives mainly from healthcare interactions or experiences. This thesis has highlighted that patients often recount and

make evaluative judgments on how they are treated or cared for when receiving health care. It has demonstrated that women make individual and voluntary efforts to seek care, as evidenced by their near universal attendance of ANC and uptake of the PMTCT program if HIV-positive. However, the proportions of women lost-to-follow-up and defaulting through the various stages of the PMTCT program point to weaknesses in the building of therapeutic relationships.

A theoretical framework of trust in studying access to and utilization of health services by women provides a valuable extension to the widely used theoretical framework based on the Andersen behavioural model of health service use. The approach used in this thesis is a valuable extension because it puts emphasis on healthcare as a social institution, meaning that it is inherently relational. There is no doubt that one of the most important, yet most neglected aspects of healthcare performance is relationships; the effectiveness of all healthcare efforts hinges directly on therapeutic relationships between providers and recipients of healthcare.

The conceptual framework of trust in healthcare used in this thesis explains, for instance, the paradox of high levels of initiating access to care and sub-optimal subsequent utilization patterns. The framework explains, for instance, issues such as delays in seeking care and poor adherence to treatment and prevention plans, especially when the risks associated with sub-optimal use are well understood by care recipients. It has allowed insights to be gained into value-laden factors that influence health service use beyond health belief or health education, which are some of the tenets of the Andersen health behavioural model. In particular, the framework brings out the various phases of trust that shape and influence women's health service use at any given point

in time. An inquiry based on the notion of trust in healthcare goes far beyond focusing on predisposing, enabling and needs factors as predictors of health service use. It is an inquiry that requires the researcher to look into how care is provided (as reflected in women's narratives of their healthcare experiences), and the meaning that patients derive from those experiences.

The proposition advanced in this thesis is that in order to improve service delivery for women and children healthcare providers need to enact a caring element into their provision of healthcare, premised on the centrality of trust in healthcare. Over and above women acknowledging their need for services, they also have to trust that particular services are actually good for them at given points in their lives. Most importantly, it is when the same services are provided in a way that assures individuals that their best interests remain at the centre of the care they are receiving that acceptance and utilization of those services is promoted and sustained. It is this acceptance that will see these services patronized over competing challenges that a woman may have to deal with from time to time arising out of her daily life circumstances.

This thesis argues that healthcare system strengthening in sub-Saharan Africa requires a comprehensive approach that, especially at the implementation level of health policies, seeks ways of building therapeutic relationships in healthcare. In particular there is a need for health service research to focus on the social aspects of healthcare, to find innovative ways of promoting and building positive relations in healthcare. The thesis has highlighted some of the important dimensions in this relationship, such as communication, fidelity, competence and a caring approach to healthcare provision. The

centrality of trust in healthcare for sub-Saharan Africa goes beyond the need for rebuilding trust which the medical profession so habitually creates through medical scandals towards empowering women through relationships built on trust in healthcare.

Trust in healthcare in the context of this thesis is about empowering women so that they view the healthcare system and the care they are able to receive through it as focusing not only on their physiological health but also on their psychosocial health. Injecting a caring demeanour into healthcare provision is a process that will point to the pursuit by healthcare providers of the health equity and social justice that are necessary in order to end health inequalities. Health services research can aid this process by providing evidence to catalyse and sustain interest in a discourse which recognizes that healthcare systems strengthening must embrace the social dimension of healthcare. To date, healthcare system strengthening in sub-Saharan Africa has been too focused on the technical and biomedical components of the system, alas neglecting its social component.

Perhaps some of the factors that have contributed to lack of interest in this trust in healthcare approach have been the complexity and methodological debates that have been common to inquiry into trust in healthcare in industrialized nations, where the research has been substantial. This thesis provides insight into how the women who participated in the study gave meaning to the notion of trust, which is what trust is to them. For the most part, matters of trust in healthcare for women who informed this study were not so much the issues of scepticism and suspicion which tend to be pivotal in discourse on trust in healthcare in developed countries. They were more about healthcare providers and the healthcare system failing to acknowledge that healthcare

needs were but one other problem among many, perhaps even greater problems, in these women's lives. Ignoring women's most pressing needs and challenges and viewing their health behaviour as irrational whenever it contravened tried and tested medical interventions and recommended action plans was to them an unwarranted medical paternalism. It portrayed women as irresponsible risk takers who did not care about their health and wellbeing or that of their children, which to them was far from the truth. The thesis is an effort that resonates with the important work of Harvey Picker (1915-2008), who recognised that "while science and technology were thriving in medicine, humanity and empathy were the antidotes needed to fix a broken system" (Picker Institute, 2008:no page, online).

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Appendix 1

Ministry of Health research approval letter

Telephone: (267) 363200
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TELEGRAMS: RABONGAKA
TELEX: 2818 CARE BD

MINISTRY OF HEALTH
PRIVATE BAG 0038
GABORONE

REPUBLIC OF BOTSWANA

REF NO: PPME-13/18/1 Vol VI (34) 4 June 2010

Health Research and Development Division

Notification of IRB Review: New application

Ms Dintle S. Molosiwa
P.O. Box 255
Palapye
Botswana

Protocol Title:	THE UTILIZATION OF MATERNAL AND CHILD HEALTH SERVICES IN THE CONTEXT OF HIV/AIDS IN BOTSWANA-IMPLICATIONS FOR THE HEALTH CARE SYSTEM
HRDC Protocol Number:	HRDC 00566
Sponsor:	N/A
HRDC Approval Date:	18 May 2010
HRDC Expiration Date:	17 May 2011
HRDC Review Type:	HRDC reviewed
HRDC Review Determination:	Approved
Risk Determination:	Minimal risk

Dear Ms Molosiwa

Thank you for submitting a new application for the above referenced study. This approval includes the following:

1. Application Form
2. Proposal

This permit does not however give you authority to collect data from the selected site without prior approval from the management. Consent from the identified individuals should be obtained at all times.

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal must be submitted to the Health Research and Development Division in the Ministry of Health for consideration and approval.

Furthermore, you are requested to submit at least one hardcopy and an electronic copy of the report to the Health Research, Ministry of Health within 3 months of completion of the study. Copies should also be submitted to all other relevant authorities.

If you have any questions please do not hesitate to contact Mr. P. Khulumani at pkhulumani@gov.bw, Tel +267-3914467 or Mary Kasule at mkasule@gov.bw or marykasule@gmail.com Tel: +267-3632466

Continuing Review

In order to continue work on this study (including data analysis) beyond the expiry date, submit a Continuing Review Form for Approval at least three (3) months prior to the protocol's expiration date. The Continuing Review Form can be obtained from the Health Research Division Office (HRDD), Office No. 9A 10 or Ministry of Health website: www.moh.gov.bw or can be requested via e-mail from Mr. Kgomotso Motlhanka, e-mail address: kgmmotlhanka@gov.bw As a courtesy, the HRDD will send you a reminder email about eight (8) weeks before the lapse date, but failure to receive it does not affect your responsibility to submit a timely Continuing Report form.

Amendments

During the approval period, if you propose any change to the protocol such as its funding source, recruiting materials, or consent documents, you must seek HRDC approval before implementing it. Please summarize the proposed change and the rationale for it in the amendment form available from the Health Research Division Office (HRDD), Office No. 9A 11 or Ministry of Health website: www.moh.gov.bw or can be requested via e- mail from Mr. Kgomotso Motlhanka, e-mail address: kgmmotlhanka@gov.bw . In addition submit three copies of an updated version of your original protocol application showing all proposed changes in bold or "track changes".

Reporting

Other events which must be reported promptly in writing to the HRDC include:

- Suspension or termination of the protocol by you or the grantor
- Unexpected problems involving risk to subjects or others
- Adverse events, including unanticipated or anticipated but severe physical harm to subjects.

Do not hesitate to contact us if you have any questions. Thank you for your cooperation and your commitment to the protection of human subjects in research.

Yours sincerely

PP. Khulumani
For Permanent Secretary

PERMANENT SECRETARY
MINISTRY OF HEALTH
RESEARCH UNIT
04 JUN 2010
PRIVATE BAG 0038
GABORONE
REPUBLIC OF BOTSWANA

Appendix 2

Screening interview guide for recently delivered women (Resting at Palapye Primary Hospital maternity ward)

Verbal Informed consent

Good morning/afternoon madam. Thank you for agreeing to talk to me. My name is _____, and I am a research assistant for a study being conducted by a student of the Australian National University.

I want to emphasize that your willingness to talk to me is voluntary, and if you wish to end our conversation you have only to ask, and I will go. I am conducting a study of how pregnant women use maternal and child health services, and what they think of those services. The purpose of talking to you now is to ascertain your eligibility, and willingness, to participate in an in-depth interview that will be part of this study. To do this I first need to ask you a few questions in what we call a screening interview, to see if you fit into one of three categories of women that would be interviewed at greater length. These questions will relate to your health care experiences during your recent pregnancy through to delivery, and will include questions relating to PMTCT and HIV. All the information that you provide me will be kept confidential and will not be disclosed to anyone. It will also not be used for any other purposes except the study.

This initial screening interview will last for approximately 5 - 10 minutes, and if you are uncomfortable with it you can ask me to stop at any time. Would you be prepared to let me interview you now?

Positive response: Thank you very much, and proceed to screening questions.
Negative response: That is OK. Thank you for taking the time to listen to me.

Name: _____ **Contact details:**_____

Place of interview:_____

Background information:

1. How old are you?_____
2. What is your level of educational attainment?_____
3. Do you work anywhere to earn a living?_____
4. How many children do you have?_____
5. Are you married?_____
6. Do you practice any religion, which church do you attend?_____
7. Where do you live?_____

Service utilization (latest pregnancy)

1. How many months pregnant were you when you found out that you are pregnant?

   .....

2. Did you attend antenatal care when you were pregnant?

   .....

3. Where did you attend antenatal care?

   .....

4. Where did you deliver your baby?

   .....

5. How many months pregnant were you when you first came to the clinic?

   .....

6. Did you do an HIV test at any point during the time you were pregnant?

   .....

Thank you for your cooperation.

I just want to confirm that you are willing to allow us to contact you later when you have been discharged from the hospital and are now living at home for another interview.

Appendix 3

In-depth interview guide for recently delivered women (In confinement at their homes)

Affirmation of consent

When you were still admitted at the hospital after delivery, you were kind enough to complete a short screening interview for me, during which time it was explained that I would like to conduct a longer in-depth interview with you.

I just want to remind you that your willingness to talk to me is voluntary, and if you wish to end our conversation you have only to ask, and I will go. This in-depth interview will ask you a lot more questions relating to your use of health services during your recent pregnancy, your views about those services and how you experienced the care that was provided (or maybe provided) and how those experiences shape and influence your health service. Some questions will also ask about PMTCT, if that was an issue during your pregnancy. The interview will last for about an hour, and if you agree to be interviewed you can withdraw consent and stop the interview at any time. Also, if you are uncomfortable with a particular question and prefer not to answer it you can let me know, and we will move on to the next one.

All the information you provide to me will be kept confidential and will not be disclosed to anyone in a way that enables you to be identified. If you are quoted in a research report your real name will not be used; you will be given a pseudonym so that you cannot be identified by anyone reading it.

If you agree to be interviewed the interview will be tape recorded. After the interview a written version of the interview (a transcript) will be prepared, and the tape will then be wiped. This written record will not include your name, only the pseudonym you have been given. Until they are wiped, tapes will be kept in a locked filing cabinet when not being used for study purposes as a security measure.

I am going to give you a written information sheet about my project now. I would like you to read it, and when you have done so I would be grateful if you would let me know whether you are prepared to be interviewed. It repeats many of the things I have just said to you.

Hand potential interviewee 'Information sheet' document. Wait while she reads it.

Once she has read it ask: Having listened to what I have had to say and read the information sheet, are you prepared to let me interview you and record the interview?
Positive response: Thank you very much.
Negative response: That is OK. Thank you for taking the time to listen to me.

Positive response and interview to proceed immediately: Do you have any questions before we proceed?

Positive response: OK, thank you. We will get under way.

In-depth indicative questions

Interview Record #:_____ **Date:**_____

_____

Location:_____ **Informant:**____

_____

Background questions: What were the informant's MCH utilization patterns?

1. Tell me about your healthcare needs during your most resent pregnancy.
2. Did you attend ANC during your most recent pregnancy?
3. During your last pregnancy did you test for HIV at any point?
    a. Prompt: Tell me why you tested/declined to test?
4. Were you encouraged to participate in the PMTCT program? Did you participate in the program?

Question 1: What factors shape and influence women's health service use?

1. How did you notice that you were pregnant?
2. How many months pregnant were you when you noticed you were pregnant?
3. Why did you attend ANC / why did you not attend ANC?
    a. Prompt: Tell me what you know about ANC or other services that are provided to a pregnant woman
4. *Follow the responses to elicit the informant's perceptions and knowledge about MCH services*
5. Describe for me situations that affected your decision to use / not use MCH services during your last pregnancy.
    a. Prompt: tell me more about what happened

Question 2: Why do women attend ANC on-time / late?

1. Tell me why you attended ANC at the time that you did.
2. Prompt: please elaborate in as much details as possible, give me examples if you can remember

Question 3: Why do women participate / not participate in PMTCT program?

1. Tell me why you participated / did not participate in PMTCT program
    a. Prompt: follow informant's response for further details

2. Describe in detail the things that influenced your decision
    a. Prompt for further details
3. Tell me why you followed all the treatment recommendations for the program
4. Tell me why you opted to stop participating in the program
    a. Prompt: tell me more about what happened

Question 4: How do women's healthcare experiences, knowledge and perception influence their health service use?

1. Describe in detail your healthcare experiences, knowledge or perceptions, pointing out those things that influenced any of the decisions that you made regarding the use of health services.
    a. Describe your interactions with your healthcare providers and the healthcare system
    b. Describe aspects of that interaction that affect your health service use

Question 5: Does trust matter in women's health service utilization intentions?

1. Tell me what the word trust mean to you
    a. Prompt: when you say you trust your healthcare provider what do you mean
2. Describe for me in details how or some of your healthcare experiences, knowledge and perceptions that have influenced your trust or distrust on your healthcare provider and the healthcare system
3. What do you look for in your healthcare provider to decide that you trust or do not trust them
4. Describe in detail a situation where you have been trustful or distrustful
5. What aspects of your healthcare experience shape your trust or distrust on your healthcare providers and the healthcare system

Appendix 4

Information sheet

My name is Mrs. Dintle Molosiwa – Palesa's mother. I am studying at the Australian National University. I am here conducting a study about how pregnant women and mothers are utilizing maternal and child health services, and their perception of factors associated with their utilization patterns. The study is being carried out in an effort to generate a patient-informed understanding of healthcare utilization in order to help improve health service programs and policies so that they respond to patients' needs and expectations for better health care outcomes.

The interview today is expected to last for about one hour. The questions that I will ask in the interview will include questions relating to your experiences with healthcare providers and healthcare system during your recent pregnancy through to delivery as well as issues relating to PMTCT. Do you still wish to participate in this study?

I would like to thank you very much for your willingness to participate in this study. Do you agree to be contacted at a later stage for a follow up interview as may be determined necessary? Please note that your refusal to participate in this study will be kept confidential and will not affect you in any harmful or disadvantaging way.

Your answer to each of the questions asked will be valuable and therefore I ask that you please answer as openly and accurately as you can to the best of your knowledge and recollection. I assure you that all the information you provide will be kept confidential and will only be used for the purposes of this study. Nowhere in writing up the results of the study will your name ever be used, but pseudonyms will be used instead.

If you feel that some of the questions are too personal or difficult for you to answer, and you feel uncomfortable about answering them, please indicate this and we will move an to a different question.

If you have any comments/feedback you would like to give about the interview please feel free to do so at the end of the interview. You can also call me call me on my mobile phone.

Do you have any questions that you would like to ask before we start?

Appendix 5

Data abstraction form

Client ID:		First Name	
		Surname:	

Client ID:

1. Demographics

Date of birth: **"Dvar1"**

Occupation: **"Dvar4"**

Place of birth: **"Dvar2"**

Religion: **"Dvar5"**

Gravidity: **"Dvar3"**

Parity: **"Dvar6"**

Place of residence: **"Dvar7"**

Education: **"Dvar8"**

- 0 None
- 1 Not noted
- 2 Primary
- 3 Junior Secondary
- 4 Senior secondary
- 5 Tertiary

Marital Status: **"Dvar9"**

- 0 Not noted
- 1 Single
- 2 Married
- 3 Widowed
- 4 Divorced
- 5 Cohabiting

Social environment notation: **"Dvar10"**

- 0 Not noted
- 1 Satisfactory
- 2 Unsatisfactory

HIV Status: **"Dvar11"**

- 1 Positive
- 2 Negative
- 3 Not known (not tested)
- 4 Not able to determine

Family planning method used:

- 0 None
- 1 Not noted
- 2 Condom
- 3 Pill
- 4 Injection
- 5 Diaphragm
- 6 Depo provera
- 7 IUCD/Loop

Date last used:

Reason for stopping:

2. Maternity Section

Record information for all women who were admitted to PPH maternity ward between April 1st 2005 and March 31st 2010

Delivered at facility: **"Mvar1"**

- 1 Yes
- 2 No born at home
- 3 No born on way to hospital
- 4 Not noted

Date of delivery: **"Mvar2"**

Number of children born alive: **"Mvar3"**

Number of children stillborn:**"Mvar4"**

Gestational age at delivery:**"Mvar5"**

ARV administered during labour and delivery: **"Mvar6"**

- 1 Yes
- 2 No
- 3 N/A (HIV negative)
- 4 Not able to determine

Reason for not administering ARV: **"Mvar7"**

- 1 Born before arrival
- 2 Advanced 2nd stage labour
- 3 Client declined
- 4 Drug not available
- 5 HIV negative
- 6 N/A (ARV administered)
- 7 Not able to determine

Was the patient advised regarding PNC: **"Mvar8"**

- 1 Yes
- 2 No
- 3 Not able to determine

Date advised for PNC visit: **"Mvar9"**

Anticipated place of PNC visit: **"Mvar10"**

- 1 Palapye Primary Hospital
- 2 Other

Specify

Date discharged:**"Mvar11"**

Condition of baby at discharge:**"Mvar12"**
(Babies born alive)

- 1 Stable
- 2 Satisfactory
- 3 Sick
- 4 Died
- 8 Not noted

3. ANTENATAL SECTION

Include records for all women for whom maternity information is recorded at Section 2, and for any other women with an EDD between April 1st 2005 and March 31st 2010

Did client attend ANC: **"ANC1"**
1 Yes
2 No

Facility where attended: **"ANC2"**
1 Palapye Primary Hospital
2 Other
Specify

Date of 1st ANC visit: **"ANC3"**

Gestation at first visit: **"ANC4"**

Number of visits attended: **"ANC5"**

Infant feeding method opted for: **"ANC6"**
0 Not noted
1 Exclusive breastfeeding
2 Exclusive formula feeding
3 Mixed feeding

HIV test done: **"ANC7"**
1 Yes
2 No (patient declined)
3 Not noted

ARV administered during ANC: **"ANC8"**
0 Not noted
1 Yes
2 No
3 N/A(HIV negative)

Gestation when administered: **"ANC9"**

4. PMTCT SECTION

Complete this section for all women for whom Section 3 was completed.

Tested for HIV prior to current pregnancy: **"PMTCT1"**
0 Not able to determine
1 Yes
2 No

Date of most recent prior test: **"PMTCT2"**

Result of most recent prior test **"PMTCT3"**
1 Positive
2 Negative
3 Not able to determine
4 N/A (no known prior test)

Tested for HIV during current pregnancy: **"PMTCT4"**
1 Yes
2 No (declined test)
3 Not able to determine
4 No (other)
Specify

Result of test for current pregnancy: **"PMTCT5"**
1 Positive
2 Negative
3 Not able to determine
4 N/A(no known test results)

Gestational age at testing: **"PMTCT6"**

Was patient advised on date for re-test at 36 weeks: **"PMTCT7"**
1 Yes
2 No
3 N/A

Did patient re-test at 36 weeks: **"PMTCT8"**
(Patient who tested negative)
1 Yes
2 No indication of re-testing
3 N/A (no prior negative test)

Result at 36 week re-test: **"PMTCT9"**
1 Positive
2 Negative
3 N/A (no known re-test)

Date of PMTCT enrolment: **"PMTCT10"**

Client on ARVT at 1st ANC visit: **"PMTCT11"**
1 Yes
2 No
3 Not able to determine

AZT due to start date: **"PMTCT12"**

AZT actual start date: **"PMTCT13"**

Date of last visit: **"PMTCT14"**

AZT administered at 28 weeks: **"PMTCT15"**
1 Yes
2 No (after)
3 No (not at all)
4 No (patient on ART)
5 Not able to determine
6 N/A (HIV negative)

Patient lost to follow-up: **"PMTCT16"**
1 Yes
2 No (only defaulted)
3 No (did not default)
4 Not able to determine
5 N/A (not enrolled in PMTCT)

4. PMTCT SECTION Cont...

Complete this section for all women for whom Section 3 was completed.

Stage at which the patient was LTFLU: **"PMTCT17"**

1	ANC
2	Labour and delivery
3	PNC
4	Not able to determine
5	N/A

Stage at which the patient defaulted: **"PMTCT18"**

1	ANC
2	Labour and delivery
3	PNC
4	Not able to determine
5	N/A

Action taken after defaulting **"PMTCT19"**

1	Given AZT immediately
2	AZT delayed (over a week)
3	Put on ARVT immediately
4	Not able to determine
5	N/A
6	Other

Specify

5. POSTPARTUM/POSTNATAL CARE SECTION

Did the client attend PNC: **"PNC1"**

1	Yes
2	No
3	Not able to determine

Date of first PNC visit: **"PNC2"**

Method of infant feeding: **"PNC3"**

0	Not noted
1	Exclusive breastfeeding
2	Exclusive formula feeding
3	Mixed feeding

Condition of baby at 6-8weeks: **"PNC4"**

1	Fair
2	Died
3	Sick
4	Healthy
5	Not able to determine
6	Not noted

Days of infant on ZDV: **"PNC5"**

Abstrator's notes/comments

Abstractor's name	
Abstractor's Signature	